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What should be included in a summary

Qué debe llevar un resumen

The abstract is one of the most important parts of a manuscript. It quickly conveys the content of the article, it is what appears in databases and search engines, since it is the guide to what is most important. Hence, it must be complete for the reader to be interested in the information. In some journals, the abstract is initially sent only to the reviewer, so that he/she decides whether it is worth sending the full text.[1]

The abstract should answer the following manuscript questions:[1]

1. What did you do?
2. Why did you do it?
3. What did you find?
4. Why are these findings useful or important?

If we answer these questions, readers will know the important points of the study and decide whether the rest of the article is worth reading. The context should say what is known about the topic, what is not known and what is the reason for writing about it. It should be no longer than two or three sentences and with a homogeneous style. The abstract should be written once the whole manuscript is ended highlighting the most important aspects of each section.[1,2]

The "Materials" section is the longest part of the abstract and should contain sufficient information to allow the reader to know what was done and how, the sample size, doses of drugs used, duration of the study, groups formed, etcetera.

The "Results" section should have the corresponding information, and if the number of words allows it, present it in the best way for the reader to understand.

The "Conclusions" section should have a "take home message", the findings of importance and the author's perspective.

The information in the abstract should be in the original manuscript, should not contain citations, abbreviations, acronyms, images or tables.[2] It should not be a commentary on the manuscript, not a historical narrative, not change the language and not deviate from the main topic. It should not be written in the first person and should be written in the past tense.

According to the instructions for authors of each journal, it is necessary to verify how many words it should have, which generally is between 250 and 300.[2] If the registration number of the clinical trial is available, it can be added at the end of the text.

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ORIGINAL ARTICLE

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Risk factors associated with conversion from laparoscopic to open cholecystectomy in a Major Outpatient Surgery Unit over a five-year period

Factores de riesgo relacionados con la conversión de colecistectomía laparoscópica a colecistectomía abierta en una Unidad de Cirugía Mayor Ambulatoria en un periodo de cinco años

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Keywords:
Laparoscopic cholecystectomy, conversion, risk factors.

Palabras clave:
Colecistectomía laparoscópica, conversión, factores de riesgo.

ABSTRACT

Laparoscopic cholecystectomy has become the gold standard for the management of calculous cholecystitis, so knowing the risk factors for conversion to open surgery could prepare us for the surgical intervention strategy in a major ambulatory surgery unit. **Objective:** To determine the main risk factors for conversion from laparoscopic to open cholecystectomy. **Material and methods:** Retrospective observational study in 675 patients who underwent surgery; the causes of conversion and characteristics of the patients who required conversion were evaluated; descriptive statistics and statistical analysis using χ^2 and Fisher's test were used. In addition, a logistic regression model for the probability of conversion to open surgery was performed. **Results:** Risk factors for conversion corresponded to men in 20.8%, $p < 0.05$; thickened gallbladder wall in 18.3%, $p < 0.01$; bilirubin level in 52.2%, $p < 0.001$; dilated common bile duct in 37.0%, $p < 0.01$. The first logistic regression model showed men with 1.9 with $p < 0.05$, and in the second model gallbladder wall thickness showed 3.228 and common bile duct size 3.199, both with $p < 0.001$. **Conclusions:** Statistically significant findings for surgical conversion were seen for male gender, thickened gallbladder wall, choledochal dilatation and elevated bilirubin levels. Age, duration of the clinical picture, history of abdominal surgery, obesity, and leukocytosis did not show statistical significance. The conversion rate was 2.6% in the five-year period, like that reported in other studies.

RESUMEN

La colecistectomía laparoscópica se ha convertido en el estándar de oro para el manejo de la colecistitis litiásica, por lo que conocer los factores de riesgo para la conversión a cirugía abierta podría prepararnos para la estrategia de intervención quirúrgica en una unidad de cirugía mayor ambulatoria. ***Objetivo:*** *Determinar los principales factores de riesgo para conversión de colecistectomía laparoscópica a colecistectomía abierta.* ***Material y métodos:*** *Estudio retrospectivo observacional en 675 pacientes intervenidos, se evaluaron causas de conversión y características de los pacientes que requirieron la conversión; se describió con estadísticas descriptivas y análisis estadístico tipo prueba de χ^2 y Fisher, además, se realizó un modelo de regresión logística para la probabilidad de conversión a cirugía abierta.* ***Resultados:*** *Los factores de riesgo para conversión correspondieron a hombres en 20.8%, $p < 0.05$; pared vesicular engrosada 18.3%, $p < 0.01$; bilirrubinas 52.2%, $p < 0.001$; colédoco con dilatación 37.0%, $p < 0.01$; primer modelo de regresión logística con hombres 1.9 con $p < 0.05$ y en el segundo modelo grosor de pared vesicular 3.228 y tamaño de colédoco 3.199 con $p < 0.001$.* ***Conclusiones:*** *Significativo para conversión en el género masculino, pared vesicular engrosada, dilatación de colédoco y bilirrubinas elevadas. La edad, duración del cuadro clínico, antecedentes de cirugía abdominal, obesidad y leucocitosis no mostraron relevancia significativa estadística. La tasa de conversión fue de 2.6% en el periodo de cinco años, similar a la reportada en otros estudios.*

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INTRODUCTION

Cholecystectomy is one of the most commonly performed surgical procedures worldwide, and the laparoscopic approach has become the gold standard for the management of calculous cholecystitis.[1] Laparoscopic cholecystectomy has advantages for the patient, so identifying preoperative factors can predict the difficulty of the procedure and will allow discussion of the likelihood of conversion or evaluation of the management strategy in high-risk patients during outpatient management.[2]

The factors noted by the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) to perform a cholecystectomy procedure include: acute cholecystitis, gallbladder wall thickening, advanced age, male gender, obesity, hemorrhage, bile duct injury, and choledocholithiasis.[3,4] Other studies have included also previous abdominal surgeries, elevated total leukocyte count, Hartmann's pouch stone impaction, pericholecystic collection, stone size and number, anatomy abnormalities, liver fibrosis, and liver function test abnormalities.[5,6] The decision to convert to an open procedure is based on an intraoperative analysis, noting the clarity of the anatomy, surgeon skills and the comfort to continue with the procedure; all of these with a level II grade A evidence according to SAGES Guidelines 2010.[2,4]

From 2 to 15% of patients who undergo laparoscopic cholecystectomy require conversion to open surgery, thus changing the course of the patient's evolution. Within the risk factors for conversion, male gender is considered a main factor. One explanation why male gender is a risk factor is that men usually take longer to seek medical attention presenting therefore with greater alteration of their condition when undergoing surgery.[2,5,7,8]

In 2005 at the ABC Medical Center in Mexico City, 1,843 patients undergoing laparoscopic cholecystectomy were studied. They had a conversion rate of 2.7% of which 12 cases were due to intraoperative bleeding (> 600 cm^3), and in the remaining 39 cases the main cause of conversion was the presence of surgical adhesions and the impossibility to identify the anatomical structures. The second cause was technical difficulty (inability to explore the biliary tract laparoscopically). The only significant variable was advanced age.[9] In 2016, in a review article, an analysis was made on the factors that influence the intervention of ambulatory laparoscopic cholecystectomy; the authors analyzed 25 years since its implementation. The preoperative predictive factors they found were: age older than 65 years predicted a higher probability of failure; increases surgical time due to intraoperative complications; acute cholecystitis presenting with thickened wall on ultrasound which increased three times the number of postsurgical hospitalizations; and a history of biliary pathology complicated by choledocholithiasis, which required another type of intervention such as an endoscopic retrograde cholangiopancreatography.[10] In 2016, Roman Kidwai published that patients older than 50 years had a 50% conversion rate compared to those younger than 50 years.[11]

Conversion from laparoscopic to open surgery does not necessarily means a failure of the surgeon, but a success when facing technical difficulties in the visualization of anatomical structures or the need to control bleeding.[12]

Therefore, the general objective was to determine the main risk factors in our unit for conversion from laparoscopic to open cholecystectomy performed over a five-year period. In addition, by knowing the preoperative risk factors for conversion in those requiring cholecystectomy may help us to better identify those high-risk patients and propose management strategies to be offered.

MATERIAL AND METHODS

This is a retrospective, observational and descriptive study conducted in a major ambulatory surgery unit (UNEME) over a five-year period, from January 2013 to December 2017. All patients were electively scheduled for ambulatory laparoscopic cholecystectomy. Those with complete medical records, complete laboratory tests, ultrasound scans, and post-surgical note were included. After exclusion of records, the

analysis was performed in 675 patients out of a total of 3,317 operated for laparoscopic cholecystectomy.

The variables evaluated were age, gender, body mass index (BMI), comorbidities, history of abdominal surgery, time of evolution, ultrasonographic parameters, preoperative laboratory results, causes of conversion, diagnosis of conversion, and year of surgery.

For analysis, descriptive statistics were performed for frequencies and averages. χ^2 and Fisher's exact tests were used for cross-tabulations of risk factors associated with conversion to open surgery. Logistic regression models were estimated for the probability of conversion to open surgery. The SPSS Statistics software program 24 was used to perform the statistical analysis.

RESULTS

Of the 675 patients 85.8% were women and 14.2% men; 83.4% were younger than 55 years and 16.6% older than 55 years; 9.8% had diabetes, 53.5% a history of abdominal surgery, 43.4% obesity and 55.8% a clinical picture of at least six months. Among the ultrasound parameters, 66.3% had normal gallbladder wall thickness and 33.7% had a thickened wall (> 3 mm was considered as thickening of the gallbladder wall); 94% had a dilated common bile duct (> 6 mm were used as the measure to consider a dilated common bile duct by ultrasound); 98.1% had the presence of gallstones on ultrasound. Among laboratory parameters, 96% had normal bilirubin levels and 4.0% had elevated bilirubin levels; white blood cell counts were normal in 89.2% and elevated in 10.8%.

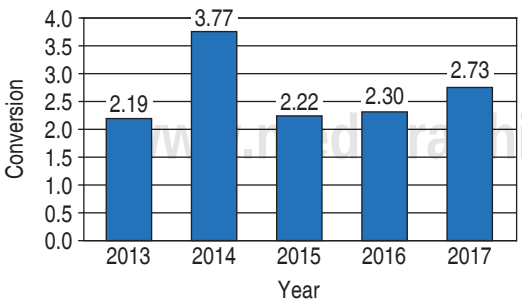

Figure 1: *Conversion rate per year.*
Own elaboration according to data consulted.

The conversion rate per year remained constant over the study period and corresponded to 2.6% from January 2013 through December 2017. There was a small increase in the conversion rate in 2014 to 3.7%. This 2.6% conversion rate falls within the global parameters of conversion to open surgery.[1,2]

The variables studied with respect to the converted patients were analyzed by means of cross tables. The results are shown in *Figure 1*.

Surgery conversion was required in 20.8% of men and 11.7% of women ($p < 0.05$). Of these, 8.0% had normal vesicular wall on ultrasound and 18.3% had thickened wall with a $p < 0.001$). Regarding bilirubin levels 10.7% had normal levels and in 52.2% these levels were elevated with a $p < 0.001$)[9]; 37% had common bile duct dilatation while 3% did not show it ($p < 0.01$). Of the total of patients 11.6% had a history of abdominal surgery, 17% were older than 55 years, 13.6% had a history of diabetes, 16.7% show increased white blood cell counts, 14% had a clinical picture lasting between one and two years, and 14.9% had obesity *(Tables 1 through 3)*.

Two logistic regression models to assess the probability of conversion to open surgery were performed. In the first model, demographic variables were used, and male gender showed a 1.9 higher probability ($p < 0.05$) of converting from laparoscopic to open cholecystectomy. The second model added ultrasound variables of wall thickness which gave a 3.228 higher conversion rate probability and a common bile duct dilatation that showed a 3.199 higher conversion rate probability (both $p < 0.001$) *(Table 4)*.

DISCUSSION

The risk factors for conversion from laparoscopic to open cholecystectomy have been shown to be the same as those seen for a difficult cholecystectomy. Therefore, it is very important to have complete patient data, medical history, and laboratory studies including an ultrasound scan of gallbladder and bile ducts

One of the limitations of our study was that ultrasound scans did not have a standardized

way of measurement. Whether they are performed in public or private facilities all of them provided information with non-constant parameters (all the ultrasounds used in our study were not performed in the unit). So, it is very important to know well the data of the gallbladder wall. Preoperative ultrasound has been used as a method to indicate technical difficulties and predict potential conversion.[13,14]

Table 1: Patient distribution according to conversion of surgery by gallbladder wall thickness. UNEME, Tijuana 2013-2017.

		Vesicular wall thickness* (%)		
		Normal	Thickened	Total (%)
Converted	No	92.00	81.70	88.50
	Yes	8.00	18.30	11.50
Total		100.00	100.00	100.00

* $p < 0.001$, the thickness of the gallbladder wall being significant for conversion.
Own elaboration according to data consulted.

Table 2: Distribution of patients according to conversion of surgery for diabetes. UNEME, Tijuana 2013-2017.

		Diabetes (%)		
		No	Yes	Total (%)
Converted	No	87.00	86.40	87.00
	Sí	13.00	13.60	13.00
Total		100.00	100.00	100.00

Own elaboration according to data consulted.

Table 3: Distribution of patients according to surgery conversion by common bile duct diameter. UNEME, Tijuana 2013-2017.

		Common bile duct* (%)		
		Non-dilated	Dilated	Total (%)
Converted	No	90.70	63.00	89.10
	Yes	9.30	37.00	10.90
Total		100.00	100.00	100.00

* $p < 0.001$, being the common bile duct dilatation significant for conversion.
Own elaboration according to data consulted.

In our study, significant gallbladder wall thickness above 3 mm was used as a cut-off value, since it is a radiological sign of acute cholecystitis with inflammatory changes.[4,15] The range of the common bile duct diameter is from 4-8 mm,[10,13] and the size of a dilated common bile duct above 6 mm has been reported as a cause for a difficult cholecystectomy.[16] On the other hand, no significance was seen in the number of stones and the risk of conversion.[1,2] With the above mentioned, it is observed that these are data of an acute picture that include tissue inflammation and induration, which difficult the dissection of Calot's triangle due to the inflammatory process[7,8] and the other part is the predictive factors of choledocholithiasis adding another issue to the initial picture.[17]

Our conversion results are very much alike those found in other series worldwide. The conversion parameters used for our analysis were: male gender (since there has been a higher incidence of conversion to open surgery than in women); gallbladder wall thickness > 3 mm; common bile duct dilatation > 6 mm; and the presence or absence of gallstones by ultrasound. And other factors were increased bilirubin levels > 1.5 mg/dl; leukocytosis > 11,000 mm/dl; history of abdominal surgery; age over 55 years; diabetes; increased body mass index; and clinical symptoms lasting over six months.[18-20]

Regarding the reasons for conversion, the most prevalent were the following: surgical adhesions, bile duct dilatation and difficulty in obtaining a satisfactory Strasberg's critical view. The results obtained were alike to those of other studies in which difficulty in dissecting Calot's triangle and intraoperative hemorrhage were main reasons since it obscures the operative field impeding the identification of the anatomical safety points.[1,5,21] The explanation for the incidence of these factors could be that a prolonged course of symptoms leads to a more severe and progressive inflammatory process, which impedes successful completion of laparoscopic surgery.[22]

Table 4: Logistic regression models for the probability of conversion to open surgery (odds ratio). UNEME, Tijuana 2013-2017.

		Demography	Ultrasound
Variable		**Model 1**	**Model 2**
Gender	Male (Ref. female)	1.9*	1.13
Age	> 55 (Ref. < 55)	1.355	
Wall thickness	> 3 mm (Ref. < 3 mm)		3.228‡
Common bile duct diameter	> 6 mm (Ref. < 6 mm)		3.199‡
Constant		0.241	0.021‡

Model 1: demographic variables, gender had a significant $p < 0.05$* in relation to conversion.
Model 2: ultrasonographic variables, had a significant $p < 0.001$‡ in relation to conversion.
Own elaboration according to data consulted.

We observed that these factors increase the risk of conversion since they lead to other difficulties and issues during the operative act. Therefore, with the continuous evaluation of the efficacy of these diagnostic instruments to identify risk factors, as well as assessing the increased difficulty these factors impose to the surgery, they will help us to continue studying the management options available and in necessary cases to plan the patient's management strategy.

CONCLUSIONS

The results of our study will support the assessment of patients before undergoing laparoscopic cholecystectomy by considering which patients are at risk of being converted from a laparoscopic procedure to an open one thus leading to longer hospitalization time and the use of more health resources for the patient and the hospital units.

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ORIGINAL ARTICLE

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Mortality in patients with intestinal failure at the *Hospital Central del Estado*, Chihuahua, Mexico

Mortalidad en pacientes con falla intestinal en el Hospital Central del Estado, Chihuahua, México

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ABSTRACT

Intestinal insufficiency is defined as "a reduction of functional intestinal mass below the minimum amount necessary for adequate digestion and absorption of food". It is a rare condition, usually secondary to major abdominal surgery. It is characterized by inadequate intestinal function for nutrient and electrolyte absorption that affects nutritional status and survival expectancy if adequate intravenous administration of nutrients and electrolytes are not given. In the last decades the importance of this entity has been considered in publications dealing with its treatment, mortality, life expectancy, and related factors; however, data are still insufficient, even more so in our environment. **Objective:** To describe the rates and causes of mortality among patients with intestinal failure in the Intestinal Failure Unit of the Hospital Central del Estado in Chihuahua, Chihuahua State, Mexico. **Material and methods:** A retrospective cross-sectional study was conducted in the *Hospital Central del Estado* with a total of 53 patients in a period from March 2016 to March 2018, based on criteria according to the type of intestinal failure. **Results:** 37% of the patients included in the study (20/53) died due to intestinal failure. According to their type of intestinal failure, functional classification type II had the highest percentage of deaths and according to their pathophysiology, higher mortality was observed due to short bowel syndrome, followed by intestinal dysmotility. **Conclusions:** It is important to know the association between the main types of intestinal failure and their main causes of mortality in our setting to administer timely and adequate therapies and thereby reduce mortality.

RESUMEN

La insuficiencia intestinal se define como "una reducción de la masa intestinal funcional por debajo de la cantidad mínima necesaria para una adecuada digestión y absorción de los alimentos". Es una afección rara, generalmente secundaria a una cirugía abdominal mayor. Se caracteriza por una función intestinal inadecuada para la absorción de nutrientes y electrolitos que afectaría el estado nutricional y la expectativa de supervivencia sin la administración intravenosa de nutrientes y electrolitos. En las últimas décadas se ha tomado en cuenta la importancia de esta entidad con publicaciones que tratan sobre su tratamiento, mortalidad, expectativa de vida y factores relacionados; sin embargo, los datos siguen siendo insuficientes, aún más en nuestro medio. ***Objetivo:*** *Describir las tasas y causas de mortalidad entre los pacientes con falla intestinal de la Unidad de Falla Intestinal del Hospital Central del Estado en Chihuahua, Chih.* ***Material y métodos:*** *Se realizó un estudio transversal retrospectivo en el Hospital Central del Estado con un total de 53 pacientes en un periodo de marzo de 2016 a marzo de 2018, tomando criterios de acuerdo con el tipo de falla intestinal.* ***Resultados:*** *Se encontró que 37% de los pacientes incluidos en el estudio (20/53) fallecieron a causa de falla intestinal. De acuerdo con su tipo de falla intestinal, la clasificación funcional tipo II fue la que obtuvo el mayor porcentaje de fallecimientos y de acuerdo con su fisiopatología se observó mayor mortalidad a causa del síndrome de intestino corto, siguiendo la dismotilidad intestinal.* ***Conclusiones:*** *Es importante conocer la asociación entre los principales tipos de falla intestinal y sus principales causas de mortalidad en nuestro entorno para así lograr administrar tratamientos oportunos y adecuados y con ello disminuir la mortalidad.*

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INTRODUCTION

Intestinal failure (IF) is characterized by a reduction in the amount of functional bowel mass below the required to maintain adequate digestion and absorption of nutrients and fluids to achieve a normal nutritional state.[1,2] The term was first described in 1981 by Fleming and Remington. Usually, intestinal failure can be divided into acute and self-limited, or chronic and progressive.[3]

There are several classifications and definitions regarding intestinal failure. Among the most accepted classifications there is a "functional classification of IF", which divides IF into types I, II and III. Also, there is a "pathophysiological classification of IF", which, as its name indicates, classifies IF according to its triggering mechanism into short bowel syndrome, intestinal fistula, intestinal dysmotility, mechanical bowel obstruction, and intestinal malabsorptive disease. And lastly, there is a clinical classification of chronic IF, which divides IF into non-malignant disease or due to active cancer.[4-6]

In our setting it has been observed that the most common cause of intestinal failure is enteric fistula, alike to what has been described by other authors.[7]

Despite the existence of all these classifications in the literature, there is still no common agreement within community of health professionals regarding the IF definition and use of the classifications, which makes it a relevant issue among clinicians for the welfare of patients. Regardless of which classification is used, we may say that all pathologies that cause intestinal failure imply an important protein, energy, and water-electrolyte imbalance, which sometimes, either by itself or in conjunction with other comorbidities, ends in a fatal outcome.[8]

EPIDEMIOLOGY

In a retrospective study carried out in the United States, 89 patients with intestinal failure were analyzed, with a mortality rate of 5% (3/89) after reconstructive surgery and an overall preoperative and postoperative mortality rate of 16% (14/89)[9] including deaths due to the underlying disease.

In another group of 68 patients with intestinal failure studied in Italy, it was observed that 22 of them died from causes secondary to the chronic condition of the failure, of which: three died from causes related to administration of total parenteral nutrition (TPN) complications such as sepsis associated with catheter use, failure of venous access and liver failure; three died from failure to comply with TPN as indicated, five from metabolic alterations and 11 from causes not directly related to the intestinal failure itself.[10]

Unfortunately, in our setting there are no statistics on intestinal failure in adults or associated mortality. There are isolated data on the pathologies that condition intestinal failure, but due to the lack of clarity in its definition and classification, it is difficult to find reliable sources that encompass the current classifications.

DIAGNOSIS AND TREATMENT OF INTESTINAL FAILURE

As mentioned, there is still no consensus on a globally accepted classification for the diagnosis of intestinal failure *(Table 1)*:

Pathophysiological classification:

This classification is based on the main mechanism which, either alone or in association with some other, can determine whether a patient will develop intestinal failure or not. It consists of five main pathophysiological conditions that may originate from various gastrointestinal or systemic diseases:[5]

- Short bowel syndrome
- Intestinal fistula
- Intestinal dysmotility
- Mechanical obstruction
- Intestinal malabsorptive disease

Functional classification:[4]

Type I: acute, usually self-limited.

Type II: prolonged acute, with metabolically unstable patients requiring intravenous supplementation for weeks to months.

Type III: chronic, in metabolically unstable patients, requiring intravenous supplementation for months to years, that may be reversible or irreversible.

Clinical classification:[6]

This is the most recent classification created by an expert panel of the European Society for Clinical Nutrition and Metabolism (ESPEN) that agreed on the need for a "clinical classification" of IF to facilitate communication and cooperation between health professionals. Considering that there were no published data available to use as a starting point, the development of a "clinical classification" was based on the common experience of the expert panel, reaching a consensus to classify chronic IF as a benign disease or with active cancer, based on caloric and intravenous volume requirements. As expected, this classification includes a wide range of patient distribution and variability of pathophysiologic causes as well as of energy requirements.

In the initial approach to the acute phase in a patient with IF, it is essential to control any septic focus, manage volume loss, provide specific antibiotic therapy, perform adequate wound and stoma management, and achieve an intensive water and electrolyte control, administer TPN, perform multiple surgical procedures for bypass, debridement, and drainage of collections, and, in some cases, even proceed to intestinal transplantation. All this requires a multidisciplinary team that should be composed of intensivists, internists, gastroenterologists, nutritionists, psychologists, psychiatrists, rehabilitation staff, specialized nursing staff, surgeons, radiologists, nephrologists, respiratory therapists, specialists in infectious diseases and in transplants, stoma and wound management experts, anesthesiologists, and others, depending on the specific organ dysfunctions.[11-14]

Table 1: Intestinal failure classifications.

Pathophysiological classification	• Short bowel syndrome • Intestinal fistula • Intestinal dysmotility • Mechanical obstruction • Intestinal malabsorptive disease
Functional classification (types)	I Acute, usually self-limited II Prolonged acute, metabolically unstable patients requiring intravenous supplementation from weeks to months III Chronic, metabolically unstable, requiring intravenous supplementation from months to years, reversible or irreversible
Clinical classification	• Non-malignant disease • Active cancer

Own elaboration according to data consulted.

ASSOCIATION BETWEEN MORTALITY AND TYPE OF INTESTINAL FAILURE

There are few studies that describe the association between the type of intestinal failure, regardless the classification used, and mortality. However, it is usually enough to review the bibliography of different medical texts to find the mortality figures associated with each specific conditioning pathology. There are also many articles that describe, according to the personal experience of the authors, the association between different pathologies and their mortality. For example, in Crohn's disease mortality ranges from 1.1 to 19.9%, in inflammatory bowel disease is 0.9%, in toxic megacolon with intestinal resection and intestinal fistulas is 4%, or in acute mesenteric ischemia is < 58%, among others.[15-19]

The few specific studies in IF describe a patient survival rate around 88-78% at three and five years, respectively. In other centers a mortality of 16% has been published.[9,10]

MATERIAL AND METHODS

After approval of the Ethics Committee of the Hospital Central del Estado, a retrospective cross-sectional study was performed. The database of the intestinal failure unit (IFU) was analyzed. During the period from March 2015 through March 2018, a total of 53 patients admitted to the unit and who met the criteria

Table 2: Deaths.

		n (%)	Valid percentage	Cumulative percentage
Valid	Alive	33 (62.3)	62.3	62.3
	Died	20 (37.7)	37.7	100.0
	Total	53 (100.0)	100.0	

Own elaboration according to data consulted.

of being admitted to the intestinal failure unit with complete clinical and electronic records were included in the present study. Data were collected on Microsoft® Excel program and analyzed with SPSS® (IBMTM Statistical Package for Social Sciences v. 22.0) software (SPSS, Chicago, IL, USA).

RESULTS

Of the 53 patients admitted to our intestinal failure unit, 33 of them were alive to the time of this writing, corresponding to 62.3% of the total *(Table 2)*.

Of the sample obtained and according to the functional classification, 34% (18/53) of patients corresponded to type I intestinal failure, 58.5% (31/53) of patients to type II IF and 7.5% (4/53) of patients to type III IF were found *(Table 3)*. According to the pathophysiological classification (which includes surgical and non-surgical causes) in our unit, 52.8% (28/53) of patients corresponded to intestinal fistula, 13.2% (7/53) to intestinal obstruction, and only 1.9% (1/53) to short bowel syndrome as surgical causes of intestinal failure. Regarding other entities different than those described above, and which are usually treated by the clinical gastroenterologist, but which are also part of the pathophysiological classification of intestinal failure, 26.4% (14/53) corresponded to intestinal dysmotility and 5.7% (3/53) to malabsorptive syndromes *(Table 4)*.

When separating mortality by type of intestinal failure according to functional classification, we found that 55.6% (10/18) of patients with type I IF died, 25.8% (8/31) of patients with type II IF died and 50% (2/4) of patients with type III IF died.

Regarding the pathophysiological classification, the only patient classified as short bowel syndrome died. Of the patients with intestinal fistula 21.4% (6/28) died. When reviewing the literature, a mortality of 19.1% was found in other centers in patients with intestinal fistula. However, it is not specified if these patients met the definition of intestinal failure.[20] The mortality in cases of intestinal obstruction was 14.3% (1/7). Of the causes attended by the gastroenterologist colleague, it was found that 71.4% (10/14) of patients with exclusive intestinal dysmotility died. And lastly 66.6% (2/3) died associated to an intestinal malabsorptive disease. In the literature review, no similar studies were found that described the mortality rate according to the different classifications of intestinal failure.

Among the main causes of death, septic shock was seen in 50% (10/20) of the deaths, mostly secondary to diffuse abdominal sepsis caused by intestinal perforation, bacterial peritonitis, severe pancreatitis, or intraabdominal abscesses. The second cause with 30% (6/20) of the deaths was acute respiratory failure, mainly secondary to

Table 3: Mortality according to functional classification.

Type	n	Deaths, n (%)
I	18	10 (55.6)
II	31	8 (25.8)
III	4	2 (50.0)

Own elaboration according to data consulted.

Table 4: Mortality according to pathophysiological classification.

	n	Deaths, n (%)
Intestinal fistula	28	6 (21.4)
Functional dysmotility	14	10 (71.4)
Bowel obstruction	7	1 (14.3)
Malabsorptive syndromes	3	2 (66.6)
Short bowel syndromes	1	1 (100.0)

Own elaboration according to data consulted.

Table 5: Causes of general mortality.

	n
Septic shock	10
Acute respiratory failure	6
Mesenteric thrombosis	2
Atrial fibrillation	1
Hepatorenal syndrome	1

Own elaboration according to data consulted.

pneumonia. Other causes included mesenteric thrombosis in 10% (2/20), atrial fibrillation in 5% (1/20), and hepatorenal syndrome secondary to chronic liver disease also in 5% (1/20) *(Table 5)*. In studies like ours, it has been concluded that the main cause of death was a malignant tumor of different types followed by failure in the hydro-electrolytic management.[10]

DISCUSSION

Interest in acute intestinal failure has increased in recent decades and several publications[3-13] have reported their most relevant aspects, including treatments and mortality. This retrospective cohort study of patients with intestinal failure admitted to our unit reports the results of 53 patients, where a mortality of 37.7% (20/53) was detected for different causes. The main mortality cause was diffuse abdominal sepsis despite being managed with strict fluid control, specific antibiotic therapy according to culture results, and abdominal cleansing procedures every 24 to 48 hours. This contrasts with a 16% mortality rate reported by Atema et al.[9]

All patients in the present study developed intestinal failure in the context of an intraabdominal catastrophic event. In 52.8% (28/53) of the cases the intestinal failure occurred after a loss of functional bowel length associated with the presence of one or more postoperative enteric fistulas, whose treatment merited home-made vacuum systems, early parenteral nutrition (usually with Kabiven® brand solution bags or customized solution bags prepared in the mixing center of the Autonomous University of Chihuahua), which corresponds with the reports of other authors as the main cause of intestinal failure.[7,9]

Of the deaths, 10% were due to disorders other than intestinal failure and its pathophysiological processes including: atrial fibrillation in 5% (1/20), and hepatorenal syndrome secondary to chronic liver disease also in 5% (1/20).

CONCLUSIONS

In our environment, the prevalence of the causes of intestinal failure is like the one published in the world literature; however, mortality related to abdominal sepsis is high, so we found an area of opportunity to reduce the mortality rate in our patients.

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ORIGINAL ARTICLE

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Changes in lipid parameters in patients undergoing bariatric surgery. Lipid parameters and bariatric surgery

Cambios en los parámetros lipídicos en pacientes sometidos a cirugía bariátrica. Parámetros lipídicos y cirugía bariátrica

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Keywords:
Obesity, bariatric surgery, atherogenic index, cholesterol, triglycerides, non-HDL cholesterol.

Palabras clave:
Obesidad, cirugía bariátrica, índice aterogénico, colesterol, triglicéridos, colesterol no-HDL.

ABSTRACT

Introduction: Obesity is associated with multiple comorbidities such as dyslipidemia. **Objective:** To analyze changes in lipid parameters in patients undergoing bariatric surgery procedures. **Material and methods:** Longitudinal study in patients undergoing bariatric surgery in 2016. Post-procedure changes in lipid parameters were recorded. **Results:** 66 patients were included. Gastric sleeve was performed in 33.3%, Roux-en-Y bypass in 22.7% and single-anastomosis bypass in 43.9%. Initial patient weight was 122 ± 26.9 kg and initial patient BMI was 46.72 ± 8.7 kg/m^2. Atherogenic dyslipidemia (AD) was present in 83.3%. Statistically significant differences were found in all the variables studied at one year of follow-up; there were no differences between the different techniques employed in weight: p = 0.674, %EPP: p = 0.420, TG: p = 0.287, and c-HDL: p = 0.432; there were statistically significant differences in changes in TC (p = 0.0001) and LDL-C (p = 0.01). When evaluating the indices, a statistically significant difference was found in all of them at baseline and at 12 months of follow-up (p = 0.001) with no difference between the surgical procedures studied. With respect to AD, significant improvement was observed at one year follow-up (p = 0.05) with remission in 74%. **Conclusions:** Bariatric surgery is associated with improvement in different lipid parameters with remission of AD in most patients regardless of the type of procedure performed.

RESUMEN

Introducción: *La obesidad se asocia a múltiples comorbilidades como la dislipidemia.* ***Objetivo:*** *Analizar los cambios en los parámetros lipídicos en pacientes sometidos a procedimientos de cirugía bariátrica.* ***Material y métodos:*** *Estudio longitudinal en pacientes sometidos a cirugía bariátrica en 2016. Se registraron los cambios posteriores al procedimiento.* ***Resultados:*** *Se incluyeron 66 pacientes. Se realizó manga gástrica en 33.3%, bypass en Y de Roux en 22.7% y bypass de una anastomosis en 43.9%. Peso inicial de 122 ± 26.9 kg e IMC inicial de 46.72 ± 8.7 kg/m^2. Se presentó dislipidemia aterogénica (DA) en 83.3%. Se encontraron diferencias significativas en todas las variables estudiadas al año de seguimiento; sin diferencia entre las diferentes técnicas en peso: p = 0.674, %EPP: p = 0.420, TGC: p = 0.287 y c-HDL: p = 0.432; si en los cambios de CT (p = 0.0001) y c-LDL (p = 0.01). Al evaluar los índices, en todos se encontró diferencia significativa al inicio y a los 12 meses de seguimiento (p = 0.001) sin diferencia entre las técnicas estudiadas. Con respecto a la DA, se observó mejoría significativa al año de seguimiento (p = 0.05) con remisión en 74%.* ***Conclusiones:*** *La cirugía bariátrica se asocia a mejoría de los diferentes parámetros lipídicos con remisión de la DA en la mayoría de los pacientes independientemente del tipo de procedimiento realizado.*

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INTRODUCTION

Overweight and obesity are defined as an abnormal or excessive accumulation of fat that is detrimental to health. In adults, the World Health Organization (WHO) defines overweight when the BMI (body mass index) is 25-29.9 kg/m^2; and obesity when the BMI is equal to or greater than 30 kg/m^2. According to WHO data in 2014 more than 1.9 billion adults aged

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18 or older were overweight, of which more than 600 million were obese.[1] Regarding data from the National Health and Nutrition Survey (ENSANUT) 2016 in Mexico, three out of 10 children under 11 years of age were overweight or obese as well as four out of 10 adolescents and seven out of 10 adults; an increase in overweight and obesity figures was observed in adult women and in rural areas.[2]

Obesity is associated with the presence of insulin resistance in peripheral tissues together with the existence of a proinflammatory state caused mainly by the release of different cytokines and hormones by adipose tissue.[3] Obesity has been related to the presence of atherogenic dyslipidemia, characterized by low levels of high-density cholesterol (HDL-C), hypertriglyceridemia and increased levels of low-density cholesterol (LDL-C). On the other hand, bariatric surgery has proven to be an effective treatment alternative in patients with obesity and its comorbidities. The present study was carried out to evaluate the changes in the different lipid indices after bariatric surgery.

MATERIAL AND METHODS

An observational, longitudinal, and analytical study approved by the institution's research committee with registration number DIR/19/310B/3/006 was carried out, where patients undergoing bariatric surgery at the Comprehensive Care Center for Diabetes and Obesity (CAIDO) of the General Hospital of Mexico in the period from January to December 2016 were evaluated. Patients taking hypolipidemic drugs or with metabolic syndrome were excluded. The indication for the type of surgical procedure (gastric sleeve, Roux-en-Y gastric bypass [RYGB] or single-anastomosis gastric bypass [SAGB]) was based on clinical criteria and on the consensus of the different specialists at the clinic. All patients were evaluated preoperatively and at one, three, six and 12 months postoperatively. During each visit weight, BMI, % of excess weight lost (%EWL) and biochemical tests for total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C) and triglyceride (TG) levels were measured.

Body mass index (BMI) is calculated as weight in kilograms divided by squared height (kg/m^2).[1] The percent of Excess Weight Loss (%EWL) was calculated based on the excess weight compared to the weight corresponding to a BMI of 25 kg/m^2.[4] The atherogenic index (AI) was obtained with the TC/HDL-C ratio

Table 1: Baseline features of patients.

	Gastric sleeve (22)	SAGB (29)	RYGB (15)	p
Weight (kg)	125 ± 26.0	122 ± 33.0	118 ± 29	0.796
BMI (kg/m^2)	47 ± 9.0	47 ± 9.0	45 ± 8	0.799
TC (mg/dl)	180 ± 34.0	171 ± 33.0	178 ± 35	0.663
TG (mg/dl)	167 ± 97.0	154 ± 62.0	203 ± 107	0.199
HDL-C (mg/dl)	38.6 ± 10.0	39.8 ± 9.0	38.2 ± 10	0.837
LDL-C (mg/dl)	106.6 ± 28.0	106.5 ± 23.0	105.3 ± 35	0.988
CT/HDL-C	4.9 ± 1.2	4.5 ± 1.1	4.9 ± 1.3	0.378
TG/HDL-C	4.7 ± 3.5	4.03 ± 1.8	5.5 ± 2.7	0.210
LDL-C/HDL-C	2.9 ± 0.9	2.8 ± 0.8	2.9 ± 1.1	0.860
Non-HDL-C	140.9 ± 33.0	131 ± 36.0	139.3 ± 35.0	0.555

SAGB = single-anastomosis gastric bypass, RYGB = Roux-en-Y gastric bypass, BMI = body mass index, TC = total cholesterol, TG = triglycerides, HDL-C = high-density lipoprotein cholesterol, LDL-C = low-density lipoprotein-cholesterol. Own elaboration.

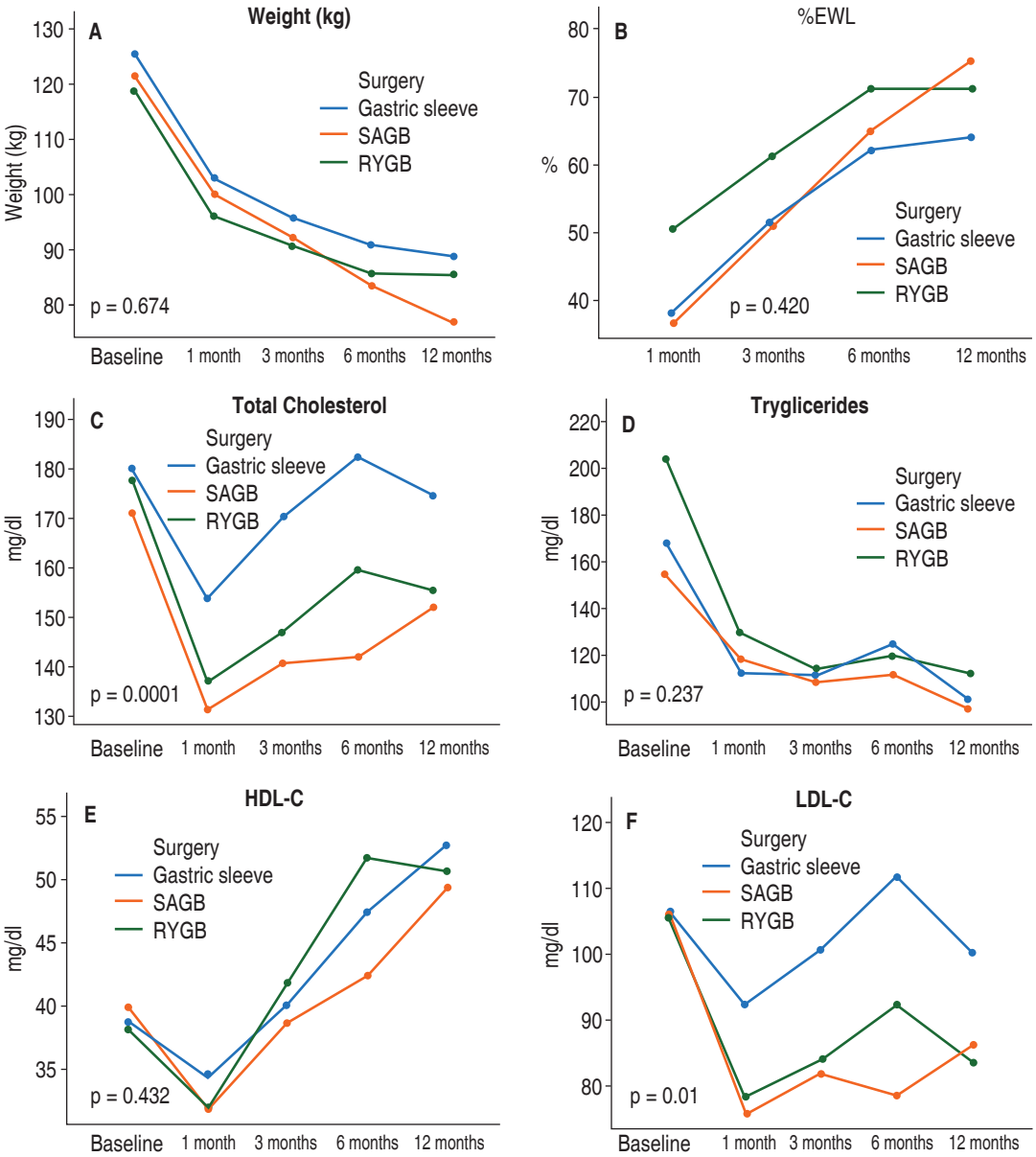

Figure 1:

Changes in the different variables after bariatric surgery. *All variables show statistically significant improvement 12 months after the intervention regardless of the type of surgical procedure used ($p < 0.05$). The p-value shown in the image represents the difference between the different techniques for each variable:* ***A)*** *Weight, $p = 0.674$;* ***B)*** *%EWL, $p = 0.420$;* ***C)*** *Total cholesterol, $p = 0.0001$;* ***D)*** *Triglyceride level, $p = 0.237$;* ***E)*** *HDL-C, $p = 0.432$;* ***F)*** *LDL-C, $p = 0.01$. %EWL: % excess of weight lost. The results shown are the mean of each variable. Own elaboration.*

considering a value > 4.5 as a predictor of coronary risk.[5] The TG/HDL-C index was obtained dividing the total fasting triglyceride level by HDL-C, where the cut-off values that have been associated with elevated insulin levels (as an indicator of insulin resistance) correspond to 2.5 in women and 3. 5 in men,[6] so that a value greater than 3 in adults has been considered as a marker of insulin resistance.[7,8] Non-HDL cholesterol (non-HDL-C) is a measure of LDL, intermediate density LDL-C (IDL) and very low density (VLDL-C) cholesterol[5] and is calculated by subtracting HDL-C from the TC value; non-HDL cholesterol has been found to be the main determinant of early atherosclerosis.[9] Atherogenic dyslipidemia (AD) was defined as a triglyceride value > 150 mg/dl, and HDL-C less than 40 mg/dl in men and 50 mg/dl in women.[4]

A sample size calculation was performed with the Gpower 3.1 software indicating a total of 40 patients to achieve a statistical power of

0.8, an α-error of 0.05 and a β-error of 0.2. For data analysis, measures of central tendency were used as descriptive statistics. A general linear repeated measures model was used to evaluate changes in laboratory parameters and weight loss, and ANOVA to evaluate differences between the various techniques. A value of $p < 0.05$ was considered statistically significant. The analyses were performed using the IBM SPSS v. 20 package.

RESULTS

A total of 66 patients were studied. The group consisted of 56 women (84.4%) and 10 men (15.6%). The surgical procedures performed were: 22 gastric sleeves (33.3%), 15 Roux-en-Y bypasses (22.7%) and 29 single-anastomosis bypasses (43.9%). The baseline characteristics of the patients are shown in *Table 1*.

ANOVA repeated measures were performed to evaluate changes in the different variables over time *(Figure 1)*. Statistically significant differences were found in all the variables studied at 1-year follow-up. No differences were observed in weight ($p = 0.674$), %EWL ($p = 0.420$), TG levels ($p = 0.287$) and HDL-C ($p = 0.432$) between the different surgical techniques. A statistically significant difference was found in the changes in TC ($p = 0.0001$) and LDL-C ($p = 0.01$).

When evaluating the different indices, a statistically significant difference was found in all of them at baseline and at 12 months of follow-up ($p = 0.001$) *(Figure 2)*. No difference was detected between the techniques studied *(Table 2)*. Regarding atherogenic dyslipidemia (AD), it was present in 83.3% of patients at baseline: 19 (86.3%) with gastric sleeve, 23 (79.3%) with SAGB, and 13 (86.6%) with RYBG. Statistically significant improvement was observed at one year follow-up ($p = 0.05$) with remission in 74% of patients, with no difference observed between the different surgical techniques.

DISCUSSION

Obesity has become a pandemic and is considered a priority issue for public health, research, and economics worldwide. The prevalence of AD is associated with overweight, obesity, diabetes mellitus, and myocardial infarction.[10] In the present study it was found that 83.3% of patients showed criteria for AD prior to surgery, with remission of AD in 74% of cases following the bariatric surgery procedure. This correlates with previously reported data, where 20-63% of pre-surgical patients had criteria for AD with a post-surgical remission of 62-74%.[4,11] No significant differences in remission were found between patients undergoing gastric sleeve, Roux-en-Y bypass or single-anastomosis bypass procedures as reported in the literature.[12,13] Likewise, a decrease in TG levels to normal ranges was observed in 89.4% of patients, in TC in 89.3%, and in HDL-C in 74.2% at 12 months of follow-up, which is in agreement with previous studies reporting a 30-63% decrease in TG and a 12-39% increase after bariatric surgery.[14,15]

TC values decreased to normal values in up to 89.3% of the cases, which correlates with an increase in HDL-C and a decrease in LDL-C, with the degree of increase in HDL-C being of greater importance in assessing the reduction in cardiovascular risk.[15]

With respect to HDL-C, it is important to highlight that an abrupt decrease in its values was observed in the first month after the surgical procedure, probably due to the postsurgical diet, followed by an overt and statistically significant increase after three months post-surgery, correlating with previous descriptions in the literature and independent of the type of surgery used,[12,16] suggesting that the increase in HDL-C values does have a direct correlation with weight loss after the procedure.

Non-HDL cholesterol has been suggested as a therapeutic target in patients with hypertriglyceridemia and high cardiovascular risk, and it has also been said that it may be a marker of apo-B concentration in clinical practice.[5] In this study, a decrease in non-HDL cholesterol levels was observed together with an increase in HDL-C levels with a less marked decrease in TC levels as previously reported.[15]

Atherogenic index (AI) has been related to insulin resistance and as the best predictor of cardiovascular risk.[5] The greatest decrease in the level of the AI was detected at three months post-surgery and was maintained through follow-up as reported by Climent et

al,[4] who mentioned that the decrease in AI levels correlates with a remission of AD and an improvement in the HOMA-IR index.

When comparing our results with those of other centers for obesity and its comorbidities in Mexico, we observed that Molina-Ayala et al[17] reported a significant decrease in weight, glucose, insulin, HOMA-IR, TC, TG, HDL-C, LDL-C, and uric acid levels one year after the bariatric surgery procedure. Reyes-Perez et al[18] showed similar results in postoperative Roux-en-Y gastric bypass patients in a private setting. The age of the patients was 40.1 ± 11.5 years; women represented 42% of the group and the

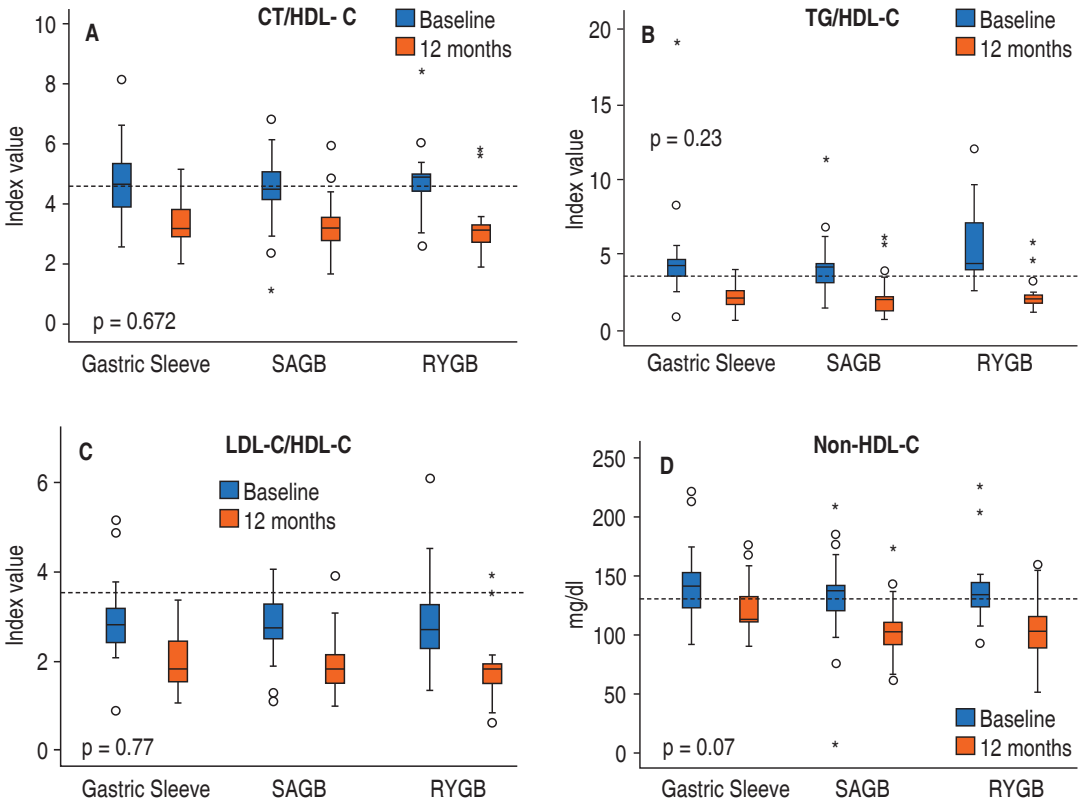

Figure 2:

Changes in the different lipid indices 12 months after the bariatric surgery procedure. *All indexes presented statistically significant improvement and return to normal values 12 months after the procedure. No difference was found between the different surgical techniques. Dotted lines represent the ideal normal value. Own elaboration.*

Table 2: Changes in the different lipid parameters.

	Gastric sleeve		SAGB		RYGB		
	Baseline	12 months	Baseline	12 months	Baseline	12 months	p-value*
CT/HDL-C	4.9 ± 1.2	3.5 ± 0.8	4.5 ± 1.1	3.3 ± 0.9	4.9 ± 1.3	3.3 ± 1.1	0.672
TG/HDL-C	4.7 ± 3.5	2.1 ± 0.8	4.03 ± 1.8	2.3 ± 1.2	5.5 ± 2.7	2.3 ± 1.2	0.23
LDL-C/HDL-C	2.9 ± 0.9	2 ± 0.6	2.8 ± 0.8	1.9 ± 0.6	2.9 ± 1.1	1.8 ± 0.9	0.77
Non-HDL-C	140.9 ± 33.0	122 ± 23.0	131 ± 36.0	102 ± 25.0	139.3 ± 35.0	104 ± 28.0	0.07
Dyslipidemia (%)	19 (86.4)	4 (18.2)	23 (79.3)	8 (27.6)	13 (86.7)	3 (20.0)	0.05

*Difference among techniques.
Own elaboration.

initial BMI was 42 ± 6.5 kg/m^2. Likewise, at the Mexican Instituto Nacional de Ciencias Médicas y Nutrición "Salvador Zubirán", postoperative Roux-en-Y gastric bypass patients were analyzed, reporting a mean age of 38 ± 10; the BMI at the beginning of the study was 48 ± 6 kg/m^2 with a %EWL of 70% one year after the procedure. The values for HDL-C, LDL-C and TG decreased significantly one year after the surgical procedure.[19]

The reduction in the different lipid parameters after bariatric surgery has been associated with a decrease in cardiovascular events and deaths from the same cause,[20] so the results in the remission and improvement of the different lipid alterations in patients undergoing bariatric surgery are of utmost importance. Among the limitations of the present study, we found that lifestyle data such as dietary habits and physical activity were not assessed and given the small sample size, it is difficult to extrapolate the results due to an inadequate statistical power.

CONCLUSIONS

Bariatric surgery is associated with frank improvement of the different lipid parameters, with remission of AD in most patients from the third month and continuing 12 months after surgery ($p = 0.0001$). Weight loss seems to have the greatest impact on the decrease of the different indexes and this improvement is independent of the type of procedure performed. A non-statistically significant decrease in weight ($p = 0.674$), %EWL ($p = 0.420$), TG levels ($p = 0.287$) and HDL-C levels ($p = 0.432$) among the different techniques were seen. Therefore, we can conclude that bariatric surgery is a therapeutic option in obese patients with AD from the first months of the procedure. As this is a preliminary study, we should continue to observe the lipid behavior over a longer period and with a larger number of patients.

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Conservative management in a patient with complicated acute appendicitis

Manejo conservador en un paciente con apendicitis aguda complicada

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Keywords:
Appendicitis, abscess, non-operative management, operative management, percutaneous drainage, ultrasound.

Palabras clave:
Apendicitis, absceso, manejo conservador, manejo quirúrgico, punción guiada, ultrasonido.

ABSTRACT

The management of complicated acute appendicitis is a therapeutic challenge for all surgeons because of the increased complication rate due to tissue friability. In this article we present the case of a patient who was admitted with complicated acute appendicitis to the emergency department. With imaging studies, two intra-abdominal abscesses of 88 and 125 ml in the right iliac fossa and in the cul-de-sac, respectively, were detected. It was decided to perform conservative management with ultrasound-guided puncture and tomographic control, in addition to management with broad-spectrum antibiotics and total parenteral nutrition. The patient evolved favorably and was discharged nine days later without any complications. We also present a review of the current literature on the management of complicated acute appendicitis.

RESUMEN

El manejo de la apendicitis aguda complicada es un reto terapéutico para todos los cirujanos por el aumento en la tasa de complicaciones debido a la friabilidad de los tejidos. En este artículo, presentamos el caso de un paciente que ingresó con apendicitis aguda complicada al servicio de urgencias. Se detectaron dos abscesos intrabdominales de 88 y 125 ml en fosa iliaca derecha y en fondo de saco, respectivamente. Se decidió realizar manejo conservador con punción guiada por ultrasonido y control tomográfico, además de manejo con antibióticos de amplio espectro y nutrición parenteral. El paciente evolucionó favorablemente y fue dado de alta nueve días después sin ninguna complicación. Presentamos, además, una revisión de la literatura actual en cuanto al manejo de apendicitis aguda complicada.

INTRODUCTION

The management of acute appendicitis continues to be a challenge for surgeons. The incidence of acute appendicitis has been estimated at 11 cases per 10,000 population per year, with a lifetime risk of developing acute appendicitis of 9%.[1]

The rate of perforated acute appendicitis is between 15-20% of all cases,[2] an incidence that doubles in patients younger than eight years or older than 45 years.[1] Cases of complicated appendicitis, that is, those associated with the presence of phlegmon or abscesses, account for 3.8% of cases and their treatment remains controversial at present. Urgent surgical management of these patients is risky due to the friability of the tissues, with a three-fold increase in morbidity and reported rates of intestinal resection in 3% of cases.[3,4] Conservative management or Ochsner's method has been the gold standard in the management of these patients, which in the current setting involves the use of broad-spectrum antibiotics as well as CT- or ultrasonography-guided drainage with a reported success rate of up to 93%.[3] Due to the inherent risk with this method of overlooking etiologies such as inflammatory bowel diseases or neoplasms, interval appendectomy (IA) is part of conservative medical management, although recently this practice has been questioned due to the low rate of recurrent appendicitis and

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low incidence of malignancy, prioritizing IA for those patients with risk factors.[5]

CASE PRESENTATION

A 34-year-old male attended the emergency department for abdominal pain of 15 days of evolution associated with nausea, oral intolerance, chills, and diaphoresis. In the previous days, he received antibiotic and unspecified analgesic treatment without improvement. He had no family and/or personal history of importance. His blood pressure was 110/71 mmHg, heart rate 107x', respiratory rate 16x', O_2 saturation 93% and temperature 36.7 ºC. On examination, the abdomen was painful in the lower quadrants, with a plastron felt in the left iliac fossa and involuntary rigidity without rebound. His admission laboratory tests showed: white blood cells of 23.9 10∧3/µl, segmented neutrophils 74%, band forms 6%, hemoglobin 13.8 g/dl, platelet count 466,000/µl, serum glucose 87 mg/dl, creatinine 1.0 mg/dl, C-reactive protein 24.25 mg/dl, total bilirubin 0.4 mg/dl, and serum albumin 3.8 g/dl.

The CT scan of abdomen and pelvis with IV contrast showed free fluid in the right parieto-colic, intestinal interloop and peri-cecal slides. The cecal appendix with a diameter of 14 mm and thickening and enhancement of its wall was seen. A supra-vesical collection with extension to the right iliac fossa measuring 55 × 75 × 41 mm with a calculated volume of 88 cm^3 *(Figure 1)* and another in the cul-de-sac with extension to the left iliac fossa measuring

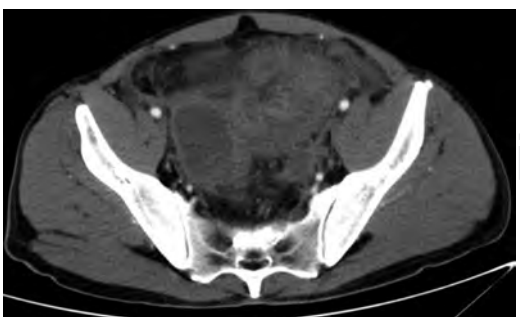

Figure 1: *Supra-vesical collection with extension to the right iliac fossa. Volume 88 cm^3.*

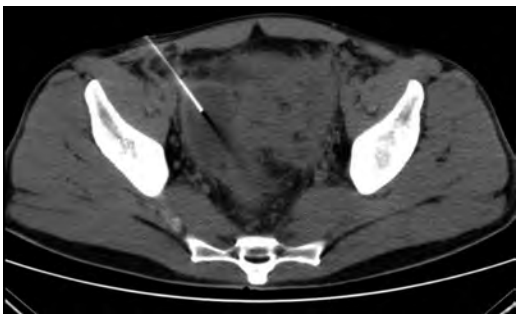

Figure 2: *Guided puncture of supra-vesical collection with extension to the right iliac fossa.*

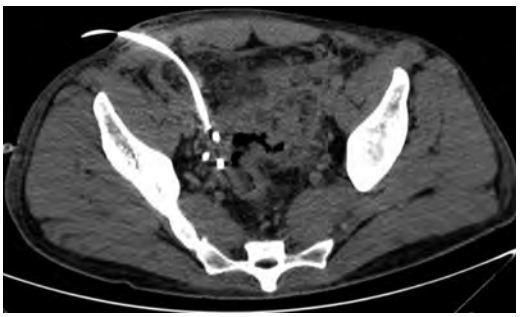

Figure 3: *CT scan demonstrating significant size reduction in the supra vesical collection.*

60 × 57 × 70 mm with a volume of 125 cm^3 were observed. Ultrasound-guided puncture with tomographic control of both collections was decided to perform *(Figure 2)*, draining 70 and 120 cm^3 of purulent fluid, respectively. Two Dawson Mueller® 10.2 Fr drains were left, one in the right iliac fossa and the other in the cul-de-sac zone. Broad spectrum antimicrobial management was started with meropenem 1 g iv every eight hours and vancomycin 1 g iv every 12 hours. He was left fasting for two days and parenteral nutritional support was started for three days with Oliclinomel® solution. The aerobic culture grew *Streptococcus constellatus* sensitive to ertapenem, so antimicrobial coverage was changed to ertapenem 1 g iv every 24 hours and vancomycin. The patient remained clinically stable, with no evidence of systemic inflammatory response and a progressive decrease in abdominal pain intensity. A control CT scan on his third hospital day *(Figure 3)* showed a significant decrease

of fluid inside the collections. The right drain was removed on fourth day, with a total output of 10 cm^3. Inflammatory markers showed a progressive decrease during his hospital stay. Final lab test results showed a white blood cell count of 9.9 10^3/μl, segmented neutrophils 67%, band forms 0% and a CRP of 4.05 mg/dl. The left drain was removed prior to hospital discharge on the ninth day of stay with a total output of 82 cm^3. No interval appendectomy was performed during his follow-up because, based on age, history and imaging studies at diagnosis, the probability of neoplasia was considered low according to existing literature recommendations.

DISCUSSION

The management of uncomplicated acute appendicitis is early appendectomy; however, the management of abscess-associated cases is controversial due to the debate in the literature between urgent surgical management and/or conservative expectant management with or without image-guided drainage.

There is no doubt that perforation is a sine qua non condition for the formation of an appendiceal abscess, and although it appears to be a time-dependent process, perforation may be influenced by factors other than time in a small proportion of patients.[6] As suggested by our patient's clinical history, delay in diagnosis, in hospital admission and analgesic consumption appear to be contributing factors in cases of complicated acute appendicitis.[7] Recently it has been pointed out that cases of complicated appendicitis would correspond to a different inflammatory process, where the isolation of *Fusobacterium* spp. would seem to increase the risk of perforation,[8] a fact that we were unable to corroborate by isolating a different species in the sample sent for culture.

Although in theory early appendectomy in cases of appendiceal abscesses allows completing the treatment in a single stage, this treatment modality is associated with greater postoperative complications, mainly surgical site infections and inadvertent intestinal lesions due to the difficulty of dissection, edema and friability of the tissues, leading to unplanned intestinal resections.[2-5,9,10] The reported success rate of conservative management is 93%, accompanied by a low number of cases with residual intra-abdominal abscesses, wound infections and reoperations in patients submitted to this treatment modality, as shown by the satisfactory evolution of our patient. This has been described in two systematic reviews and meta-analyses on the subject.[3,11] However, it is also possible to find authors who support urgent surgical management because it is associated with shorter hospital stay, and fewer recurrences and reoperations.[12] However, the total number of days of hospital stay of our patient was similar to the average days of the surgical group in the aforementioned study, without forgetting that in this series 30% of the patients undergoing surgical treatment underwent right hemicolectomy, a risk that we avoided with conservative management.

Zerem et al[13] reported good results with percutaneous drainage in abscesses > 3 cm in diameter due to a lower recurrence rate and need for appendectomy in drained patients compared to those who only received parenteral antibiotics. Due to the size of the abscesses in our case, we never considered antibiotics as the only treatment modality. Horn and his team[14] reported risk factors associated with percutaneous drainage failure in appendicitis with abscesses: female gender, comorbidities, Hispanic race, and drainage placement early in hospitalization. Although it seems to us a possible selection bias, our case deals with a patient of Hispanic origin who in theory had the percutaneous drain placed early if we consider the date of hospital admission. We do not know if this risk factor is modified by taking the onset of symptoms as a reference, since our patient had a long evolving period.

When comparing conservative management (drainage in abscesses > 3 cm) vs. laparoscopic management Mentula et al[15] showed that both managements did not differ in the total days of hospital stay, but conservative management was accompanied by more additional interventions. On the other hand, 10% of the patients in the surgical group ended up with an unplanned intestinal resection, while the reoperations due to failure of conservative management were not accompanied by intestinal resections. Taking the results of this study case with caution

we may suggest that most of the reoperations occurred in cases that could not be drained due to technical issues related to puncture difficulties. The access route used in our case was left to the discretion of the interventional radiologist.

Finally, we have mentioned the role of interval appendectomy in the conservative management of complicated acute appendicitis: on the one hand, to rule out the presence of malignancy as reported by Furman and his team[16] in 29% compared to 2.5% in uncomplicated appendicitis; and on the other hand, since only 16% of patients present obliteration of the appendiceal lumen after acute appendicitis,[17] the next purpose is to prevent a new episode of acute appendicitis. However, due to recent data where the incidence of neoplasms in this context barely reaches 2% with a recurrence rate of 12%, it has been recommended that all patients should initially be managed conservatively, especially those over 40 years of age. Also, they should have a close follow-up (colonoscopy, tomography) and undergo interval appendectomy only if there is suspicious of an etiology other than appendiceal inflammation.[4] For this reason and following these recommendations, the patient did not undergo interval appendectomy.

CONCLUSIONS

Some recent studies reflect a superiority of immediate surgical management at the expense of difficulties in percutaneous drainage as part of conservative management. We suggest that the conservative approach is an effective alternative in the management of patients with acute appendicitis complicated with abscess, avoiding exposing the patient to the risk of an unplanned bowel resection. We agree that interval appendectomy is not for all patients, but for those older than 40 years and with risk factors for colon cancer, relying on the use of colonoscopy or tomography as an aid in the detection of neoplasms during the follow-up of these patients. Thus, we present the successful conservative management of an acute appendicitis case complicated with abscess according to the existing recommendations in the literature.

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Right adrenal pseudocyst

Pseudoquiste adrenal derecho

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Keywords:
Adrenal cyst, pseudocyst, adrenalectomy, adrenal gland, retroperitoneal.

Palabras clave:
Quiste adrenal, pseudoquiste, adrenalectomía, glándula suprarrenal, retroperitoneal.

ABSTRACT

Adrenal pseudocyst is a rare entity. About 600 cases have been described worldwide since it was first reported. Few have been reported in the Mexican literature. Its diagnosis and treatment can be considered a challenge. Although there is controversy, the main strategy has been the same in the last decade. We present the case of a patient with a large right adrenal pseudocyst.

RESUMEN

El pseudoquiste adrenal es una entidad poco frecuente. Se han descrito alrededor de 600 casos desde su primer reporte. Pocos han sido informados en la literatura mexicana. Su diagnóstico y tratamiento pueden ser considerados un reto. A pesar de que existe controversia, la estrategia principal ha sido la misma en la última década. Presentamos el caso de un paciente con pseudoquiste suprarrenal derecho grande.

INTRODUCTION

Adrenal lesions were first described by Greiselius, a Viennese physician, in 1670.[1] They may occur at any age, especially between 30 and 60 years of age. They are more common in women;[2,3] they may be asymptomatic or present with pain, gastrointestinal symptoms and a palpable mass.[4] They have been detected in 0.06 to 0.18% of autopsies[5,6] and are identified in 4% of computerized tomography (CT) scans.[7]

According to Levison's classification they are divided into four categories: endothelial cysts (45%), epithelial cysts (9%), pseudocysts (39%) and parasitic cysts (7%).[6,8-11] They can measure from millimeters to 50 cm in diameter.[12] They are usually unilateral but can occur bilaterally (8-15%).[2,12]

Predisposing factors include abdominal trauma, neonatal hypoxia, hemorrhagic diathesis, use of anticoagulants, and aneurysms.[10] The possible etiology of adrenal pseudocyst includes malformation and hemorrhage from the adrenal veins to the adrenal gland due to trauma, surgery or coagulopathy.[3,9]

CASE PRESENTATION

A 42-year-old male patient with no relevant history attended the general surgery outpatient clinic. He started in March 2018 with mild colicky abdominal pain in the right hypochondrium, radiating to the right renal fossa, intermittent, and without any other additional symptoms.

An ultrasound scan done in March reports liver of normal size, shape, and situation with an irregular lower right border, of heterogeneous echogenicity due to the presence of a rounded shape anechoic mass with well-delimited borders and thin walls suggestive of a simple cyst *(Figures 1 and 2)*.

In May 2018 he had normal cytology blood cell counts, liver and renal function tests, and coagulation parameters. No cortisol, aldosterone, urinary catecholamine or metanephrine measurements were done. An abdominal CT scan performed in May reports a right adrenal gland hypodense image with a maximum diameter of 101 mm with calcification images inside it that was exerting occupational and compressive effect

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on surrounding structures *(Figures 3 to 6)*. Once internal medicine service completed his preoperative assessment, an open anterior surgical approach was scheduled. He was given antibiotic prophylaxis with ceftriaxone 2 g in a single dose before a right subcostal incision was made and we proceeded to electrocautery removal of the right adrenal cyst of 10 × 9 cm. Adhesions to the liver were found and a content of approximately 400 ml of hyaline fluid and calcifications of about 20 × 40 mm in its interior were seen. A Penrose drainage of ½" (19 mm) was placed in the subphrenic space due to the suspicion of postoperative hemorrhage.

Histopathological report was of an adrenal pseudocyst associated with old hemorrhage, fibrosis, and extensive dystrophic calcification. The patient was discharged on the third day of hospitalization with follow-up in the ambulatory setting for four months postoperatively with control with hepatic and right renal ultrasound scans. There were no complications *(Figure 7)*.

DISCUSSION

Unlike true cysts, adrenal pseudocysts do not have a cell lining; they are composed mainly of fibrotic tissue, sometimes with calcifications in their interior.[8,9]

Most pseudocysts are nonfunctional and benign. Their functional status may cause symptoms of adrenal insufficiency. The risk of malignancy is 7%.[11] Recognition and diagnosis of an early-stage primary adrenal carcinoma is particularly important, so complete resection offers the patient a good chance of survival.[9,10] The most common malignant adrenal lesions are metastases (95%), malignant pheochromocytoma (3%), and adrenal carcinoma (2%).[12]

Initial studies should include cytology blood cell counts, liver and renal function tests, and

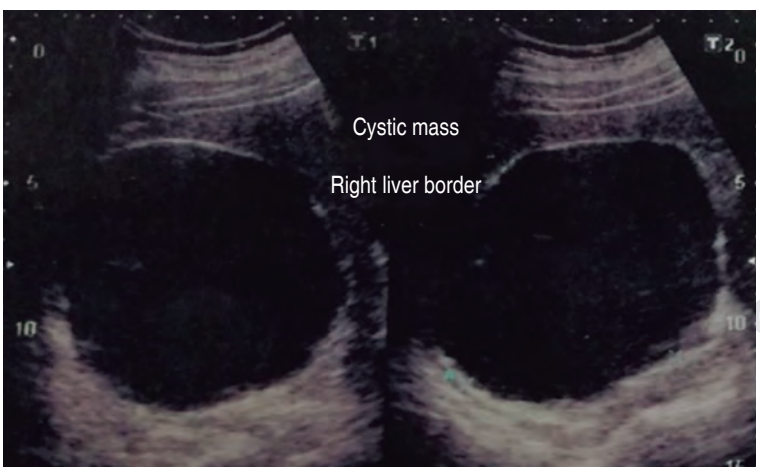

Figure 1: *Hepatic ultrasound with a rounded, thin-walled, well-defined anechoic image.*

Figure 2: *Ultrasound with image of a simple cyst located in the right lower hepatic border.*

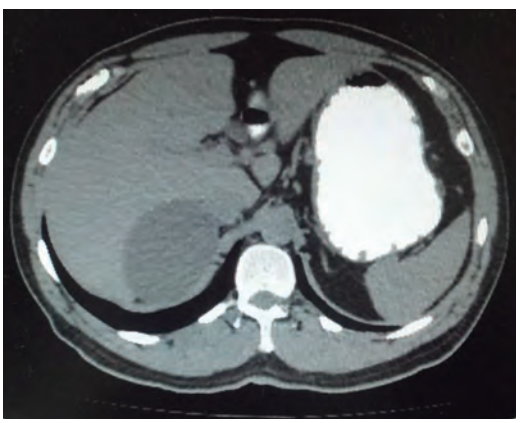

Figure 3: *A hypodense image with occupational effect on the hepatic gland.*

cortisol, aldosterone, calcium, and urinary catecholamines and metanephrine levels.[3] Ultrasound is usually the first imaging study used in the evaluation of an adrenal mass because of its low cost and lack of radiation exposure. However, its sensitivity varies from 66.7 to 90%. Computerized tomography scan sensitivity is 85-95% and specificity from 95 to 100%. Magnetic resonance imaging (MRI) has as a limitation, unlike CT, due to its low sensitivity for detecting calcifications.[10] Essentially, the differential diagnosis of an adrenal pseudocyst includes any space-occupying lesion of the upper abdomen, whether hepatic, splenic, and renal cysts as well as mesenteric or retroperitoneal cysts and solid adrenal tumors.[10] It should be noted that

Figure 4: *A cystic image measuring 95 mm in its antero-posterior axis.*

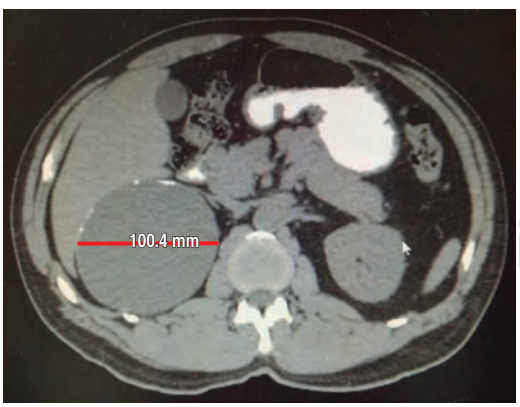

Figure 5: *A cystic image with calcifications, with a maximum diameter of 100.4 mm.*

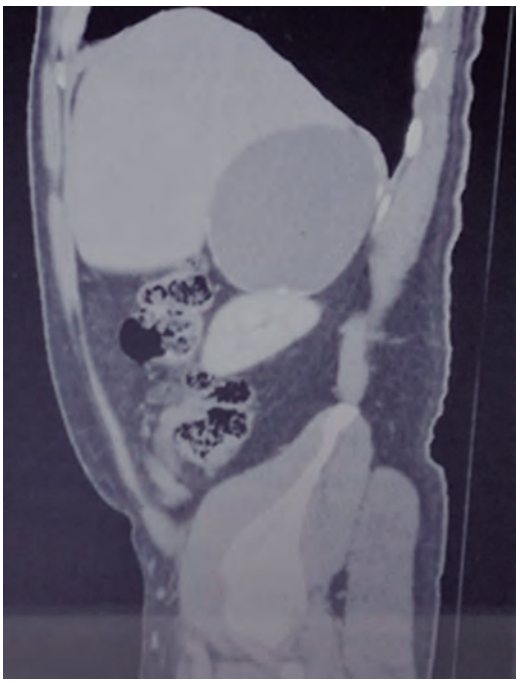

Figure 6: *A large cystic image with occupational effect on neighboring structures.*

Figure 7: *Liver ultrasound four months postoperatively, showing parenchyma with homogeneous echogenicity without evidence of focal lesions.*

a preoperative diagnosis of a large pseudocyst can be very difficult due to both its indistinct boundaries with the surrounding organs and the presence of adhesions.[10]

For treatment of cysts smaller than 4 cm it is advisable to repeat the CT scan after three months, with a follow-up period of at least 18 months.[7,10] Surgical excision is recommended

in symptomatic cysts larger than 5 cm in diameter because of the risk of malignancy and for functional pseudocysts. The surgical approach includes laparotomy, an open retroperitoneal approach, and laparoscopic approach.[5] Other procedures described are open or laparoscopic cyst unroofing and percutaneous needle aspiration.[10] The final diagnosis will be provided by pathology examination after the surgical procedure.

CONCLUSION

There are several ways to treat adrenal pseudocysts, depending on the characteristics of the lesion, the surgeon's experience and skills, and local resources.[10]

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Laparoscopic surgical management of cecum perforation by toothpick

Manejo quirúrgico laparoscópico de perforación de ciego por palillo de madera

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Keywords: Intestinal perforation, foreign body ingestion, laparoscopic surgery.

Palabras clave: *Perforación de ciego, ingesta de cuerpo extraño, cirugía laparoscópica.*

ABSTRACT

Introduction: The clinical presentation of intestinal perforation secondary to foreign body ingestion is nonspecific, since often the patient does not remember the ingestion of the foreign body, and imaging studies are negative, making diagnosis difficult. **Material and methods:** We present a clinical case of perforation of the cecum secondary to ingestion of a wooden stick, with clinical presentation of acute abdomen, along with its diagnosis and resolution by laparoscopic surgery. **Conclusions:** Toothpick ingestion may be unintentional during meals. The diagnosis of gastrointestinal perforation by foreign bodies is non-specific and may present as a clinical presentation of appendicitis.

RESUMEN

Introducción: *La presentación clínica de la perforación intestinal secundaria a la ingesta de cuerpos extraños es inespecífica, ya que a menudo el paciente no recuerda la ingesta de éste, y los estudios de imagen resultan negativos, lo que hace difícil el diagnóstico.* ***Material y métodos:*** *Presentamos un caso clínico de perforación de ciego secundario a la ingesta de un palillo de madera, con presentación clínica de abdomen agudo, su diagnóstico y resolución por cirugía laparoscópica.* ***Conclusiones:*** *La ingesta de palillo de dientes puede ser involuntaria durante las comidas. El diagnóstico de perforación gastrointestinal por cuerpos extraños es inespecífico y puede presentarse como una clínica de apendicitis.*

INTRODUCTION

The ingestion of foreign bodies that reach the stomach pass unnoticed through the gastrointestinal tract. Sometimes, this situation leads to the presence of complications that will require a relatively common surgical resolution.[1] Cases of complications have been reported in up to 35% with ingested sharp objects. The most common areas of perforation are those sites where there is angulation of the track (upper and lower esophagus, pylorus, and ileocecal valve), and most frequently in the ileum (54%), and appendix and colon (39%). Sharp foreign objects are usually fish bones in 55%, followed by chicken bones. Wooden sticks predominate in the duodenum where, if they cause a complication, reach a mortality of 18%.[1-3]

For the diagnosis of perforation of a hollow viscera by a foreign object, a correct anamnesis is necessary, although only 12% of patients remember the ingestion of the object.[2,3] Initially, chest and abdominal plain X-rays are preferred, since the location, size, shape, and number of the objects ingested can be suspected. In patients in whom evidence of foreign bodies is not found but still suspected, a computerized tomography (CT) scan is suggestive as it can identify 80-100% of these objects. And in other patients in whom it is not possible to identify the foreign object but persist with acute abdominal pain, surgical exploration is required.[3-8]

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In this case report we present a patient with acute abdominal pain secondary to perforation of the cecum by a foreign object, who had a very particular clinical picture and was diagnosed by laparoscopic surgery.

CLINICAL CASE

This is the case of a 49-year-old female patient with personal history of open appendectomy in childhood, and abdominal hysterectomy secondary to uterine fibromas and oophorectomy approximately 25 years ago.

Her clinical picture began with the presence of pain localized in the epigastrium and later radiating to the right iliac fossa lasting 20 hours. The pain was of stabbing type, with a severe intensity of 10/10, increasing with mobility and without apparent improvement, accompanied by chills and unspecified fever. She denied other symptoms and she had not received any previous medical treatment.

Physical examination revealed abdominal pain on deep palpation in the right iliac fossa with positive McBurney's point, and obturator, psoas, and Von Blumberg's signs. She also had positive right upper and middle ureteral points and right Giordano sign. Complete laboratory tests, including blood cytology, blood chemistry, and acute phase reactants were requested. The only important findings were leukocytosis with neutrophilia of 94% and C-reactive protein of 4.3 mg/dl. An abdominal CT scan with intravenous contrast was performed *(Figure 1)* that showed inflammatory changes of peri-colonic fat on the right side, and no identification of the cecal appendix.

Therefore, it was decided to admit her to continue with the diagnosis study protocol. After six hours of observation and without clinical evidence of any improvement, surgical treatment was proposed. A laparoscopic approach was decided. During the diagnostic laparoscopy surgery, scarce cloudy liquid was found in the right parieto-colic slide and a lax adhesion of the omentum to the left iliac fossa wall. Dissection of lax adhesions of the omentum to the cecum was performed and at that moment a protruding pointed foreign object was observed in the anterior face of the cecum with leakage of intestinal material. The foreign body was removed with grasper forceps and a wooden stick was identified. Primary closure of the perforation was performed with 3-0 polypropylene suture with extracorporeal cross knot and a drainage was placed in the right parieto-colic slide and another in the pelvic cavity of the Jackson-Pratt type *(Figure 2)*.

During the postoperative period, the patient showed a favorably evolution with normal vital signs. She tolerated the oral route. Drainage of a sero-hematic fluid was minimal. Ceftriaxone 1 g iv every 12 hours and metronidazole 500 mg iv every 8 hours were administered, and she was discharged 48 hours after surgery.

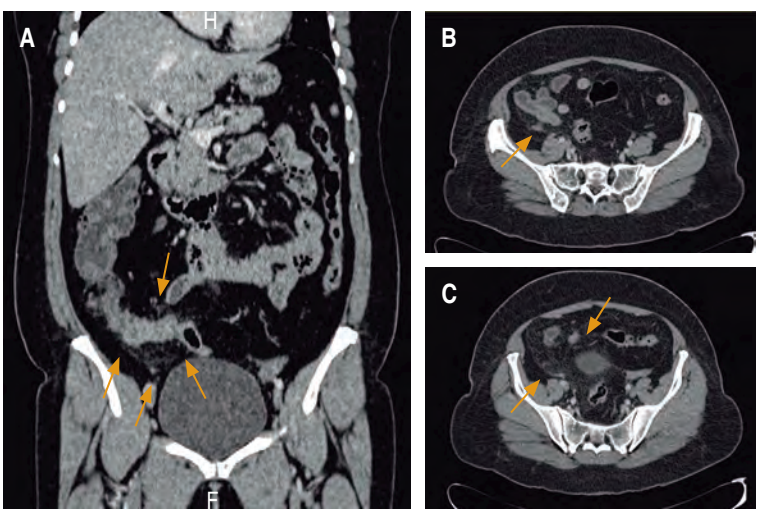

Figure 1: A) *A CT scan coronal section, showing peripheral enhancement (arrows) of the mucosa of the small bowel loops and changes due to striation of the adjacent fat.* ***B)*** *An abdominal CT scan axial section, after the administration of contrast material, showing an increase in the density of mesenteric fat in the location of the right iliac fossa adjacent to the cecum (arrow), as well as peripheral enhancement of the mucosa of the same structures, which is associated with multiple images of nodular aspect corresponding to nodes of inflammatory features.* ***C)*** *Inflammatory changes of the mesenteric fat (arrows) extending towards the pelvic bone.*

DISCUSSION

Foreign body ingestion can cause perforation at any level of digestive tract. The pylorus, the angle of Treitz, the terminal ileum and the rectosigmoid junction are the most affected segments due to their great angulation. In this patient the perforation occurred at the level of the cecum. The clinical presentation of intestinal perforation may resemble other emergency

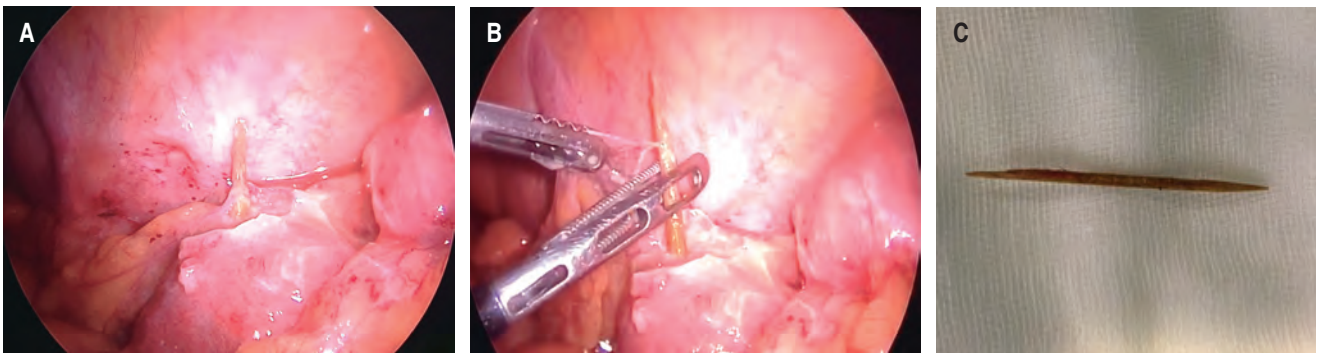

Figure 2: A) *An inflammatory plastron and wooden stick perforating the cecum is observed.* ***B)*** *Removal of the foreign object with laparoscopic forceps.* ***C)*** *Photograph of the complete wooden stick already extracted.*

conditions such as acute appendicitis, acute diverticulitis and perforated peptic ulcer, and in some cases be associated with these pathologies, and even with that of a tumor. But in a patient with a history of appendectomy and clinical data highly suggestive of this entity, it is not wise to suspect it. Sometimes the perforation may even be asymptomatic.[5-12]

In our patient, despite an exhaustive interrogation, no risk factors such as alcoholism, psychiatric diseases, use of prosthetic denture (since it decreases tactile and palate sensitivity), or some others, such as decreased visual acuity, could be identified. Although probably the same surgical history (oophorectomy, appendectomy, and hysterectomy) conditioned the formation of adhesions, this was not related to the perforation by the toothpick.[9-13]

In the retrospective study by Ngan et al, with 358 patients who ingested a fish bone, the abdominal plan X-rays had a sensitivity of only 32%, since the foreign object is small and has a low radio-opacity feature. In our case, without the identification of this pattern, nor the presence of free air in the cavity, an abdominal CT scan was performed, since it may identify foreign bodies in up to 80-100% of cases, making this study the most valuable for the diagnosis of intestinal perforation of this cause.[12-15]

Finally, a laparoscopic procedure was performed as a diagnostic method to identify the etiology of pain and systemic inflammatory response. In some cases, open and laparoscopic approaches in intestinal perforation show similar results; however, laparoscopy has shown less postoperative paralytic ileus, a rapid return of intestinal function, less pain and shorter hospital stay, and is therefore considered the method of choice for this condition.[14-16]

CONCLUSIONS

Ingestion of sharp foreign bodies that trigger intestinal perforation is of accidental origin in most cases, usually have an atypical clinical presentation and non-specific radiological findings, so multiple differential diagnoses must be ruled out, becoming so a diagnostic challenge, especially if the patient does not recall having ingested a foreign body.

In cases of acute abdomen, laparoscopic surgery is a useful diagnostic and therapeutic tool, not only by offering a definitive diagnosis, but depending on the findings during the procedure, in a center with the appropriate equipment and experience, it can be offered as a safe therapeutic option with satisfactory results for the patient, with a shorter hospital stay, less postoperative complications, and a faster return to normal activities.

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Frantz-Gruber tumor, a rare solid cystic pseudopapillary cystic tumor of the pancreas

Tumor de Frantz-Gruber, un tumor sólido quístico pseudopapilar del páncreas infrecuente

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Keywords: Pancreatic tumor, pseudopapillary tumor, Frantz-Gruber tumor.

Palabras clave: *Tumor de páncreas, tumor pseudopapilar, tumor de Frantz-Gruber.*

ABSTRACT

Introduction: Pseudopapillary solid-cystic pseudopapillary tumor or Frantz-Gruber tumor is a rare pancreatic neoplasm, more commonly seen in female sex in the first decades of life, with non-specific symptomatology and defined histopathologic features. **Objective:** To report a case of a pseudopapillary cystic solid tumor located in the head of the pancreas in a young female patient. **Case presentation:** A young female patient case with a diagnosis of Frantz-Gruber tumor in an uncommon site of the pancreas is presented, along the review of its epidemiology, clinical and histopathologic presentation, treatment and prognosis. **Conclusion:** It is a rare neoplasm that occurs in less than 1%, with benign behavior and with low probability of malignant transformation if its resection is complete.

RESUMEN

Introducción: *El tumor pseudopapilar sólido-quístico o tumor de Frantz-Gruber es una neoplasia de páncreas poco frecuente, con mayor presentación en el sexo femenino en las primeras décadas de vida, con sintomatología inespecífica y características histopatológicas definidas.* ***Objetivo:*** *Reportar un caso de un tumor sólido quístico pseudopapilar localizado en la cabeza del páncreas en una paciente joven.* ***Presentación del caso:*** *Paciente femenino con diagnóstico de tumor de Frantz-Gruber en un sitio infrecuente del páncreas, además de la revisión de su epidemiología, presentación clínica e histopatológica, tratamiento y pronóstico.* ***Conclusión:*** *Es una neoplasia rara que se presenta en menos de 1%, con comportamiento benigno y con bajas probabilidades de malignización si su resección es completa.*

INTRODUCTION

The solid, cystic pseudopapillary tumor of the pancreas is a rare entity, accounting for less than 1% of the incidence of all pancreatic neoplasms.[1]

This neoplasm also called Frantz-Gruber tumor was first described in 1959.[2-4] Histologically it is characterized by a mixture of solid areas with pseudocysts and pseudopapillary and hemorrhagic structures, a microvascular network forming pseudo-rosettes and the presence of eosinophilic or foamy cells.[5] Its incidence is higher in young women between the second and fourth decades of life.[1-3]

It is considered a low-grade malignancy since about 10 to 15% develop metastatic disease.[1-4] Preoperatively it is not easy to distinguish it from other cystic tumors of the pancreas; in many cases it is a radiological finding and in others it can be misdiagnosed as a pancreatic pseudocyst.[2]

CASE PRESENTATION

A 13-year-old female girl with no significant personal or surgical history was brought to the clinic by her mother with clinical symptoms of four months of evolution characterized by postprandial fullness and a palpable mass in

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the epigastric region, without weight loss or fever. On physical examination the patient showed mild abdominal distension, pain on deep palpation in the epigastric region and a palpable mass of approximately 4 cm at this level, without lymphadenopathy or evidence of peritoneal irritation.

Blood tests such as complete blood cytometry, blood chemistry, including serum amylase and lipase levels, and urinalysis were within normal parameters.

Imaging studies were performed including an abdominopelvic ultrasound study that showed a retroperitoneal heterogeneous tumor lesion with cystic areas in the vicinity of the head of the pancreas measuring 6 × 10.1 cm above the adrenal area. A computerized tomography (CT) scan of abdomen and pelvis simple and with intravenous contrast was performed showing evidence of a septate heterogeneous tumor lesion with contrast uptake in the periphery and septa, and presence of cystic areas of lower density located in the head of the pancreas of well-defined contours measuring 5. 9 × 6.7 × 7 cm. The pancreas body and tail were without alterations, and no dilatation of the duct of Wirsung, without presence of obliteration of the perivascular fat in the superior mesenteric artery or the spleno-portal axis, nor evidence of retroperitoneal adenomegaly were seen *(Figure 1)*.

The patient underwent exploratory laparotomy where a tumor mass of approximately 6 × 8 cm was identified at the level of the head of the pancreas attached to the second portion of the duodenum, so we proceeded to perform enucleation by dissection of the second portion of the duodenum and the trans-pancreatic portion involving the main pancreatic duct, The duodenum was then splinted with a No. 12 Nelaton, which was exteriorized through the second portion of the duodenum towards the abdominal wall at the height of the right flank, and fixed with a PDX 3 (polydioxanone) suture *(Figures 2 to 4)*.

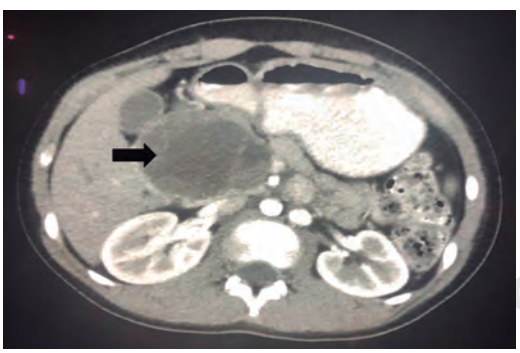

Figure 1: *An oral and intravenous axial CT scan showing a heterogeneous septate tumor mass (black arrow), with areas of lower cystic density located in the head of the pancreas, with well-defined contours (5.9 × 6.7 × 7 cm).*

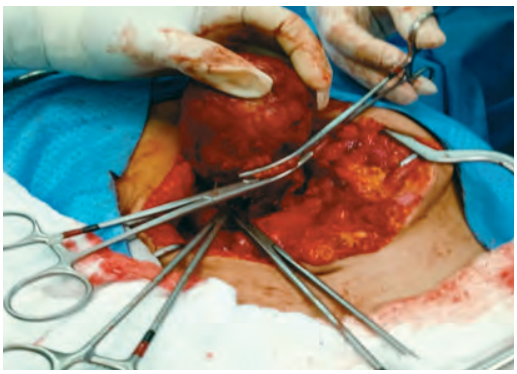

Figure 2: *Enucleation of pancreatic head-dependent tumor mass.*

The patient had a favorable postoperative period of 33 days. Additional to general measures, broad-spectrum antibiotic therapy was administered corresponding to amikacin 680 mg intravenous every day for 10 days accompanied by imipenem 500 mg every six hours intravenous for 15 days, and then cefalexin 500 mg orally every eight hours for seven days. After discharge, cefuroxime 500 mg orally every 12 hours for five days were given. Total parenteral nutrition was started on the third postoperative day and maintained for 10 days. On the seventh postoperative day, a strict liquid diet was started which was then progressed to a soft diet that was well tolerated. A somatostatin analogue from the beginning of the postoperative period at a rate of 4 µg intravenous every eight hours until discharge was used. A rigorous control of the drain was established, performing daily clamping of the drain for 24 hours and then continuing with control of the fistula to see if there was any

fluid arrest or leakage Finally, it was decided to remove the drain *(Figure 5)*.

The histopathological study revealed findings of a pancreatic solid papillary carcinoma with absence of malignancy in surrounding tissues such as greater omentum and pancreatic lymph node *(Figure 6)*.

DISCUSSION

Solid pseudopapillary cystic tumor of the pancreas is a rare neoplasm. In our institute it represents less than 1% of the total number of pancreatic neoplasms, a percentage slightly lower than that reported in the world literature.[1,3] In 95% of cases it usually appears in young women with a mean age of 20 years; however, in our case it presented at a very young age.[6] The tumors can be found at any level in the pancreatic gland, although they appear more frequently in the body and tail of the pancreas, unlike the presentation of our case, which was in the head of the pancreas. Although most of these tumors have a benign behavior with a long survival rate, they can generate metastasis in up to 15% approximately. The histopathological report that refers to the presence of perineural invasion makes us think of a possible malignant transformation of the lesion, which makes the follow-up of this patient essential.[1,2,6,7]

Clinically the patients present with abdominal pain, a palpable mass, and dyspepsia, like the clinical picture seen in our case, even though the literature refers to incidental diagnosis as the main form of presentation.[1,3-7]

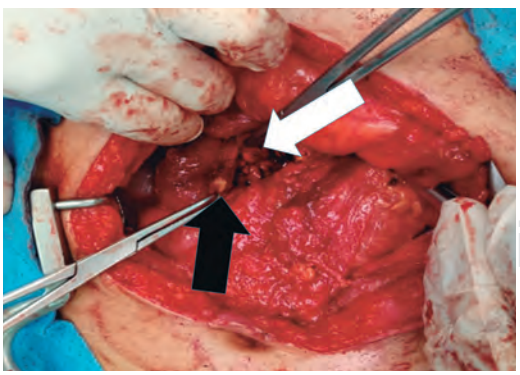

Figure 3: *Trans-pancreatic portion involving main pancreatic duct proximal end (white arrow) and distal end (black arrow).*

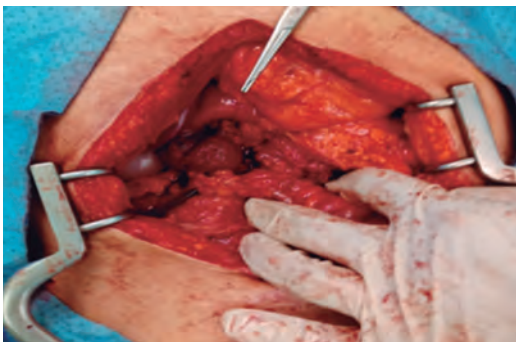

Figure 4: *Splinting of the pancreatic duct with a No. 12 Nelaton probe.*

Macroscopically the tumors are spheroidal or elliptical in appearance, well circumscribed, composed of a capsule with hemorrhagic and necrotic areas inside in 50% of the cases. The presence of calcifications and very friable septa is observed less frequently.[4,5,7] The macroscopic form of our case was cystic, measuring 8 × 4.5 × 3 cm with a smooth pink-reddish surface due to bloody material and degenerative tissue.

Microscopically there are uniform cells of epithelioid appearance, rounded or oval, with central nucleus and fine chromatin without mitotic activity. The stroma is finely vascularized and cholesterol crystals, histiocytes and calcifications are usually seen.[4,5,7] The report of the microscopic study supported the diagnosis of a papillary solid carcinoma with presence of vascular embolisms, perineural involvement, presence of scattered calcifications and degenerative cystic changes that also required immunohistochemical technique to corroborate the diagnosis.

The treatment of choice is surgical resection. Depending on the location, pancreatoduodenectomy should be performed if the lesion is at the level of the head and neck with duodenal involvement. Enucleation if there is trans-pancreatic involvement and central location, or distal pancreatectomy with splenectomy if the tumor is in the tail should be done. Surgical treatment presents low mortality and low recurrence rates.[1,2,6] In our case, enucleation of the tumor mass with splinting of

the duct of Wirsung was decided to perform to ensure the functionality after surgery.

It has been stated that these tumors are radiosensitive and sometimes they have been treated by chemoembolization, but the role of radiotherapy and chemotherapy in their treatment is not clear.[3,6]

To differentiate them, immunohistochemical methods can be of great help. Following methods were negative in neoplastic cells: pan-cytokeratin, chromogranin and HMB45; enolase was weak positive and K167 with a cell proliferation index less than 15% was found. These tumors are also negative to endocrine markers and neoplastic markers such as CEA and CA 19-9.[7-9] Our patient did not show any evidence of these markers.

In general, patients have a good prognosis and survival is reported to exceed 90% at five years with surgical treatment alone.[3,7,8,10] Our patient should be followed up and monitored with lab tests.

CONCLUSSION

Frantz-Gruber tumor is rare and commonly diagnosed as a radiological finding. It has definite histopathological features, a benign behavior and low malignancy rates; however, its treatment should be surgical resection to obtain an excellent prognosis.

Figure 5:

Normal fistula control with bile duct marking and contrast leakage into the second portion of the duodenum.

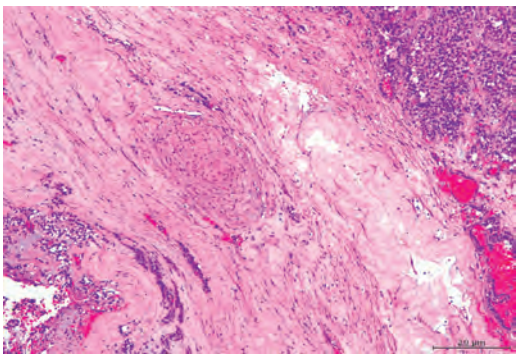

Figure 6: *Microscopic image with histopathology corresponding to pancreatic papillary solid carcinoma, showing vascular embolisms and perineural involvement, scattered calcifications, and degenerative cystic changes (hematoxylin-eosin stain 20x).*

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Ethical considerations and responsibility

Protection of humans and animals: The authors declare that no experiments on humans or animals have been performed for this research.
Confidentiality of data: The authors declare that they have followed their center's protocols on the publication of patient data.
Right to privacy and informed consent: The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the corresponding author.
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Cecal necrosis as a cause of acute abdomen in a patient with chronic renal failure

Necrosis de ciego como causa de abdomen agudo en una paciente con insuficiencia renal crónica

Juan de Dios Díaz-Rosales,* Cecilio R Salva,‡ Alma A Rivera-Córdova‡

Keywords:
Appendicitis, ischemic colitis, renal insufficiency, abdomen acute.

Palabras clave:
Apendicitis, colitis isquémica, insuficiencia renal, abdomen agudo.

ABSTRACT

Necrosis of the cecum is a rare entity of uncertain etiology, with well identified risk factors. We describe the case of a diabetic patient with chronic renal failure on hemodialysis with abdominal pain and suspicion of complicated appendicitis. The definitive diagnosis of necrosis of the cecum was made intraoperatively. Necrosis of the cecum should be kept in mind in the differential diagnosis of acute abdomen focalized in the right iliac fossa in patients with comorbidities such as renal failure.

RESUMEN

La necrosis de ciego es una entidad poco frecuente de etiología incierta, con factores de riesgo bien identificados. Se describe el caso de una paciente diabética (con falla renal crónica en tratamiento con hemodiálisis) con un cuadro de dolor abdominal y sospecha de apendicitis complicada, el diagnóstico definitivo de necrosis de ciego se realizó en el transoperatorio. Se deberá tener en mente la necrosis de ciego dentro del diagnóstico diferencial de abdomen agudo con foco en fosa iliaca derecha en el paciente con comorbilidades como la falla renal.

INTRODUCTION

Partial ischemia of the cecum is a rare variant of non-occlusive ischemic colitis, with an obscure etiology that is associated with concomitant chronic diseases such as heart failure[1] and/or renal failure (under hemodialysis).[2,3] Other variants of ischemic colitis exist in relation to acute, chronic, or mixed vascular (arterial or venous) occlusion[4] and those associated with cocaine use.[5]

Non-occlusive ischemic colitis associated with hemodialysis (as in the present case) is due to a combination of several factors.[6] Patients with diabetes mellitus, chronic renal failure and on hemodialysis have a higher prevalence of occlusive microangiopathy and are more susceptible to hemodynamic changes during their hemodialysis sessions (both factors are assumed to be etiologies of segmental necrosis of the colon);[7] even bacterial[8] and/or fungal[9] colon superinfections have been suggested as aggravating cofactors.

Ischemic colitis is usually self-limiting and may even go unnoticed. However, cases with necrosis and micro- or macro-perforation present an acute abdominal picture very similar to that of appendicitis. These cases should be operated on due to their mortality, which ranges from 58 to 88%.[3]

The surgical approach and treatment can be open or laparoscopic when resources and technical skills are available. Converting a laparoscopic to an open procedure can always be considered for surgeon comfort and patient safety.[10]

The aim of this report is to emphasize one of the less common causes of acute right lower quadrant abdomen. We present the case of

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a patient with multiple comorbidities and an acute abdomen that simulated complicated appendicitis.

CASE PRESENTATION

This is the case of 66 years-old female patient with a history of long-standing type 2 diabetes (33 years), retinopathy, and chronic renal failure on hemodialysis, in addition to uncontrolled arterial hypertension and dyslipidemia. She presented to the emergency department with abdominal pain (described as oppressive) of 24 hours of evolution, which started in the mesogastrium and radiated towards the right iliac fossa (RIF) that increased in severity until it became incapacitating. Physical examination showed positive McBurney, Rovsing, and Dunphy signs, and fist-bump percussion. In addition, she presented abdominal distension, nausea, and vomiting. Of note was the presence of liquid bowel movements on five occasions (without mucus or blood).

Her lab test results on admission were glucose 316 mg/dl, sodium 130 mEq/l, potassium 5 mEq/l, chlorine 95 mEq/l, creatinine 8 mg/dl, blood urea nitrogen 46.9 mg/dl, urea 100.1 mg/dl, hemoglobin 8 g/dl, hematocrit 25%, white blood cell count of 18.2 × 10^9/l, neutrophil count of 87%, platelet count of 163 × 10^9/l, prothrombin time 16 seconds, INR 1.27 and TPT 29.6 seconds.

Abdominal plain X-rays (recumbent and standing) showed a sentinel loop and a hydro-aerial level in the right lower quadrant (RLC) *(Figure 1)*. A clinical diagnosis (Alvarado score of 8) of appendicitis was made and an appendectomy by exploratory laparotomy was scheduled. An infraumbilical median incision was made, and upon reaching the cavity, intestinal inflammation of the distal ileal region, cecum and ascending colon was corroborated. When the cecum was lifted, a full-thickness necrosis of partial extension (6 × 8 cm) was found at the level of the antimesenteric border. This necrosis had well delimited borders, while the rest of the cecum and appendix were adequately perfused, with no macroscopic data of ischemic distress. There were no other important findings *(Figure 2)*. The distal ileum segment (5 cm) and the entire cecum were resected, closing the ascending colon in a Hartmann's pouch (in two planes, with 2-0 polyglactin 910 suture), leaving a terminal ileostomy.

The patient had a torpid postoperative course, with exacerbation of renal failure and cardiorespiratory collapse within 72 hours and died due to this cause.

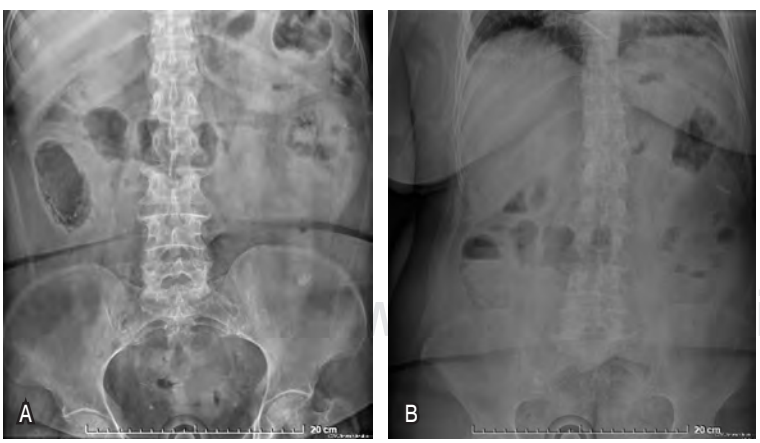

Figure 1: A) *Sentinel loop and intestinal pneumatosis in the right hemiabdomen.* ***B)*** *The same sentinel loop is observed with a hydro-aerial level and intestinal pneumatosis.*

DISCUSSION

Cecum isolated ischemic-necrotic colitis is a rare pathology, associated with chronic diseases such as cardiac[1] and/or renal failure.[2,3] Although there is no "gold standard" imaging study, a CT scan may reveal data suggestive of the diagnosis such as increased volume in the wall of the cecum, intestinal pneumatosis and/or free fluid in the cavity.[11]

Although most authors suggest performing a hemicolectomy (because of the risk of suffering in the rest of the colon) with derivative ileostomy or in selected cases with primary anastomosis (ileo-transverse anastomosis),[12] the decision to perform only the resection of the involved tissue was based on the poor condition of the patient, the unexpected finding and that resection of the involved cecum alone (with derivative ileostomy) is an option

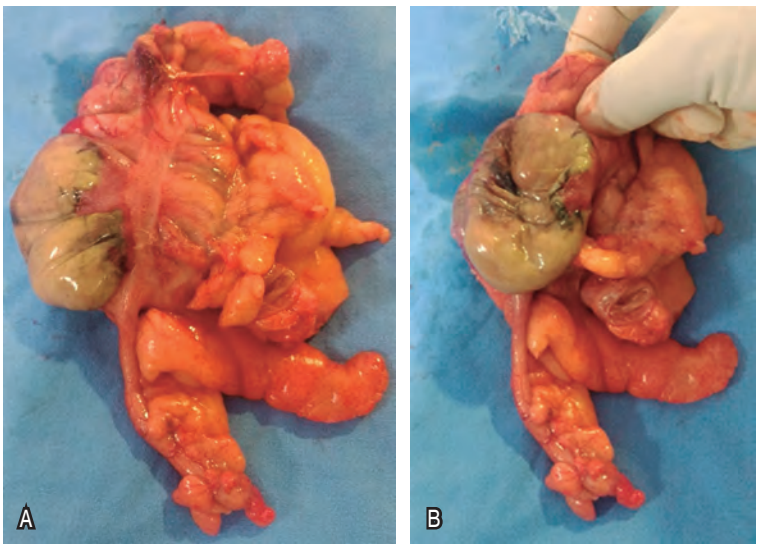

Figure 2: A) *The segment of colon (cecum) distal ileum, inflamed mesoappendix and cecal appendix with no evidence of involvement is shown.* ***B)*** *Necrosis of the cecum on its antimesenteric side with well-defined borders close to the cecal appendix.*

(without major complications) described in the literature.[13,14]

Mortality in these patients is possibly not due to the necrosis of the colon segment itself, but to their advanced age and the exacerbation of their chronic cardiac and/or renal problems due to the surgical stress caused by the emergency treatment.[15]

The possibility of necrosis of the cecum in the setting of an acute abdomen with a right lower quadrant focus should always be kept in mind (in patients with risk factors such as heart disease and/or nephropathy on hemodialysis). However, other infrequent pathologies such as cecal diverticulum,[16] cecal perforation,[17] intestinal intussusception[18] and epiploic appendicitis[19] (among others) may also be the cause of the clinical picture in question.

CONCLUSION

The differential diagnosis of acute abdomen with focus on FID is diverse and the most common causes such as appendicitis should always be considered; however, less frequent diagnoses in patients with chronic diseases should be kept in mind.

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Memoirs of a General Surgical Service and its surgeons. Part 2

Memorias de un Servicio de Cirugía General y de sus cirujanos. Parte 2

David Olvera-Pérez*

CHRONOLOGY OF THE GENERAL SURGERY SERVICE AND OF THE GENERAL SURGEONS OF THE HOSPITAL GENERAL HOSPITAL OF THE NATIONAL MEDICAL CENTER OF THE MEXICAN INSTITUTE OF SOCIAL SECURITY (IMSSI) 1963-1981, (HG OF THE IMSS CMN OF THE IMSS)

DR. GUSTAVO BAZ-PRADA (1894-1987) *(Figure 1)*

Doctor Gustavo Baz was born in Tlalnepantla, State of Mexico, on May 1, 1894. To remember a man, revolutionary, politician, teacher, a great Mexican and above all a remarkable surgeon is an honor, so that present and future medical-surgical generations know his origins and do not forget that the present was made by thinking and modifying people of his time. It is also our duty to do the same.

I met him in the twilight of his life. Many Sundays we talked at noon, and I was always impressed by his intelligence and creativity, he always had something new he wanted to undertake. As a surgeon, I had the opportunity to assist him in an appendectomy –the last one he performed– on the young daughter of a friend of his, and despite his age –over 80 years old– I was surprised by his speed and technique. He seemed like a fish in the water. I can say that I saw him operate and the assistance was not necessary. We will now recall some passages of his life, along his political, academic and professional heritage.

Youth was always one of his preoccupations, for example he wrote:
Time and the wind go away and do not return...
History is written on the leaf of time...
Youth, like time, goes away and does not return...
Youth: write your story on the leaf of time...
And let the wind carry away triumph and glory!

His surgeon's thesis dissertation on "vascular surgery" marked the beginning of a non-conformist surgeon, who sought and acquired experience abroad, applying it in the Mexico of his time in its hospital systems, in university life and in politics. He performed the first experimental kidney transplant *(Figure 2)* and the first aortic graft, implemented asepsis and antisepsis techniques, dressed physicians in white, and his personal surgical techniques were recognized, copied, and praised.[1]

His professional achievements and his dedication to teaching led him to become the Director of the National School of Medicine and at the same time of the Military Medical School, to unify and improve the curricula already with the military rank of General *(Figure 3 A and B)*. It is important to highlight this fact, since I have no information that the same individual has achieved this rank twice. In 1936 he implemented the Social Medical Service for medical students, with the objective

* Associate Member of the Mexican Association of General Surgery.

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Figure 1: *Gustavo Baz-Prada, 1912.*

of contributing to the improve the health of the neediest groups and to give medical students the opportunity to put their knowledge into practice before graduation;[1] and on July 7, 1937, the University Military Sports Pentathlon was created to contribute to the development of university students, with sports, social activities and military discipline. Among the founding students were Jorge Jiménez-Cantú, Armando León-Bejarano and Luis Sáenz-Arroyo[1] *(Figure 4)*.

Figure 2: *Experimental kidney transplant in dog, 1919.*

In June 1938 he was elected rector of the Universidad Nacional Autónoma de México, a position from which he contributed to raising academic standards and university prestige *(Figure 5)*. He remained in such a high academic position only for two years. His resignation was never accepted, so he never left the university. In that same year, in December, the University Council awarded him the title of "Doctor Honoris Causa".[2]

As rector, he regularized and reorganized the school cycles and the teaching staff; in short, he improved the university, while it was already ranked among the five worst in the world. During his tenure, he had another success for the youth, he founded the University Military Sports Pentathlon.

It is necessary to make a pause to go back to the past, to restart his biography chronologically, and enter the novel, the legend, and the history.

Dr. Gustavo Baz-Prada was born in the Municipality of Tlalnepantla, in the State of Mexico, on May 1, 1894. And for his eminent services rendered to the Mexican people and to his state, on December 23, 1978, the State Legislature decreed that the Municipality of Tlalnepantla would be named Tlalnepantla de Baz.[3]

Since he was a child, he distinguished himself for his seriousness and dedication, and demonstrated great intelligence that allowed him to excel in all the positions he held. As an example, we can read the following phrase: "work and courage, together and sustained for a long time, overcome obstacles" that he wrote in French, at the age of nine years old.

At a very young age he joined the Zapatista army. He was only 19 years old when he woke up in the Sierra del Ajusco along the Zapatistas. His work and the tasks entrusted to him were always carried out efficiently by the young Baz, which is why he was soon promoted to Lieutenant Colonel of Cavalry of the Liberating Army and later to Colonel, appointments that were signed by Emiliano Zapata himeself.[4]

Shortly after, in the following month, to be exact on December 14, a meeting of revolutionary leaders gathered in Toluca, decided to name him provisional Governor

Figure 3: A) *Dr. Gustavo Baz-Prada. Director of the National School of Medicine, UNAM.* ***B)*** *and Director of the Military Medical School.*

of the State.[4] He had only lived 20 years and for 11 months he governed his state, surprising everyone with his organizational capacity, and his economic and political vision *(Figure 6)*.

The experience of having known General Zapata, of having been his trusted courier, left a deep and permanent impression on him. After the triumph of Carranza, he resumed his path in student life, but not before having renounced his rank of revolutionary general. "The revolution had lost a general, but the country had gained a great surgeon", wrote one of his biographers.[5] He was a friend, doctor, surgeon, advisor, and collaborator of many presidents. In 1942, with General Manuel Avila Camacho as President of Mexico, he created the Secretariat of Health and Assistance by merging the Secretariat of Assistance with the Department of Health[6] *(Figure 7)*. Under his direction, this Secretariat laid the foundations of the largest hospital system ever known in our country.

Among his works were the National Medical Center (CMN) of de Mexican Institute of Social Security (IMSS), badly devastated in the 1985 earthquake, the cardiology and nutrition institutes, the children's hospital, and most of the hospitals in many municipalities throughout the country. He promoted in an intense and planned way the sending of young doctors abroad, around 480 as it is recognized. It was thanks to this that the institutes were able to grow and bear fruit. He was also responsible for the prenuptial certificates and the use of white coats in the operating rooms.

He had reached prominence in his profession in an undisputed and indisputable way, and once again he rides the steed, noble animal, where man becomes a knight, and where his word is worth as much as his life. Citizen Baz-Prada faced his circumstances and always kept his word. He was a man of his time, but his actions also put him ahead of his time. Gustavo Baz, "Protean Man" as one of his biographers -the master Don Andrés Serra Rojas- called him, re-emerged into politics at the age of sixty years.[7]

Forty-three years later, Gustavo Baz Prada became again governor of his state. But on this occasion, he arrived by political means *(Figure 8)*. During his administration, he stimulated and promoted the growth of the labor army, built the University City in Toluca, held the first national agrarian congress, and developed

the automotive industry. He always fought for the disappearance of the shortages of life, because he learned them from a very young age, living with the homeless. At the age of 82, he became a senator for his state in the LI Legislature of the Congress of the Union, for the 1976-1982 period.

He received many awards and recognitions. The last one was the "Belisario Domínguez" medal awarded by the Senate of the Republic to Mexicans who have outstandingly excelled in the defense of popular causes and in the service to the country or humanity.

His golden rules were:

Do not speak ill of anyone
Live within reality
Do not confuse what is supposed with what has been ascertained
Be timely

Figure 4: *Foundation of the University Military Sports Pentathlon.*

Figure 5: *Rector Gustavo Baz-Prada.*

Figure 6: *Governor of the State of Mexico. General Gustavo Baz-Prada, 1915-1916.*

DR. BERNARDO SEPÚLVEDA-GUTIÉRREZ (1912-1985) *(Figure 9)*

I met Dr. Bernardo Sepúlveda during my residency and my first years as a surgeon in the Gastroenterology Service. I never had direct contact with him, but I was always struck by his intelligence, neatness, punctuality, professional, and academic performance. I was fortunate to meet one of the masters of Mexican gastroenterology.

He was born in Monterrey, Nuevo León state, where he completed his pre-professional studies. He studied medicine at the School of Medicine of the Mexico Autonomous

Figure 7: *Supervising the progress of Ciudad de la Salud, with President Avila Camacho and Dr. Salvador Zubirán.*

National University (UNAM). In the early 40's he was granted a scholarship by the Mayo Foundation for Medical Research and dedicated himself to the gastroenterology and experimental medicine sections. He specialized at the General Hospital where he began his professional work, and from where he was called to collaborate in the recently founded National Institute of Nutrition. When he was head of the Gastroenterology Service, he was surprised by the invitation to collaborate in the IMSS.

In 1958 he joined the IMSS, where his brilliant work, as always, left its mark. He oversaw reorganizing and improving the medical services Through his initiative the Department of Technical Planning of the Medical Services was created. He implemented the first Basic List of Medicines, which gave him experience to later preside the Interinstitutional Commission of the Basic List of Inputs of the Health Sector, which was complemented with the Basic List of Curing Material and Prosthesis in agreement with Dr. Norberto Treviño García-Manzo, last Director of the General Hospital (HG) of the IMSS CMN. He participated in teaching the Specialty in Gastroenterology. Along with Dr. Luis Landa-Verdugo, he continued his teaching work, impregnating it with wisdom, research,

Figure 8: *Dr. Gustavo Baz-Prada, Governor of State of Mexico, 1957-1963.*

Figure 9: *Dr. Bernardo Sepúlveda-Gutiérrez.*

and perfecting modern clinical procedures, with scientific methodology to achieve a modern avant-garde specialty. Dr. Norberto Treviño, during his tenure as HG Director, managed to name the IMSS CMN General Hospital "Dr. Bernardo Sepulveda".

His participation first in the School of Medicine and later in the UNAM was always remarkable. He began as an assistant at the Propedeutic Clinic, and his fruitful work as a teacher over the years led him to receive in 1979 the designation of Professor Emeritus of the UNAM.

His professional merits allowed him to enter the Colegio Nacional, where he also had an exemplary performance. The presentation of almost two hundred scientific papers in national and foreign meetings allowed him to have a great image. Of all the digestive pathologies, two stood out in his research, liver diseases and invasive amebiasis. In 1968, he founded "The Center for Studies on Amebiasis". The first seminar was held with the participation of gastroenterologists, surgeons, pathologists, and radiologists from the CMN HG. Its success opened the doors to national researchers from other institutions, as well as foreign physicians, interested in this subject. The amebiasis disease, known and studied previously by several Mexican physicians, had unfinished answers, and lacked research, so it was possible to discover clinical behaviors that improved the clinical evolution of this disease. On the other hand, being a disease of public health importance, it forced the participation of the Ministry of Health and Assistance.

In 1975, on the centenary of the discovery of *Entamoeba histolytica* by Fedor Aleksandrovich Lesh in St. Petersburg, the seventh seminar on amebiasis was held with the participation of experts from USA, Canada, South Africa, India, France, England, Italy, the Netherlands, Gambia, Tunisia, Iraq, Poland, Sweden, Germany, Japan, Colombia, Peru, and Costa Rica.

I remember an important and transcendental proposal made by Dr. Sepúlveda: to give two tablets of metronidazole to every patient presenting at the emergency departments of all hospitals. I do not know if this suggestion was carried out, but I can mention that my activities in Extramural Surgery during eight years led me to travel most of the republic and in each and every one of the hospitals where we carried out these activities, we used to ask about the presence of patients hospitalized for complications of amebiasis. In all of them the answers were negative. In view of this evidence, I consider that Mexico has taken a great step forward in public health by practically eradicating this pathology.

Drs. Hugh R Butt and Louis S Diamond, great researchers in gastroenterology, confirmed the international importance of their participation in world congresses and meetings, particularly on hepatology and amebiasis. Further proof of his interest in hepatic pathology is revealed in the 56 published papers, 45 of which refer to the hepatic gland.

For many years Dr. Sepúlveda was a professor at the School of Medicine of the UNAM. He was an intern at the General Hospital (1935-1946), Head of the Department of Gastroenterology of the Hospital of Nutrition Diseases (1946-1962) and Head of the Division of Higher Studies of the Faculty of Medicine of the UNAM (1958-1967). He was a member of the Board of Governors of the UNAM (1964-1966), and one of the founders of the National Institute of Nutrition, as well as of the National Medical Center of the Social Security. He was coordinator of the Center for Amebiasis Studies and Secretary of the Consejo de Salubridad General from 1977 until his death.

Throughout his life he received numerous honors and recognitions: he was president of the National Academy of Medicine (1957-1958), of the French Mexican Medical Association (1959-1961) and of the Mexican Association of Gastroenterology (1960-1961). Mastership of the American of Physicians (1971), professor emeritus of the UNAM School of Medicine (1979), Doctor Honoris Causa by the Universidad Autónoma de Nuevo León (1982), ordinary president of the World Organization of Gastroenterology (1982), National Science Award (1982), and member of the Board of Directors of the National System of Researchers (1984). Dr. Sepúlveda joined El Colegio Nacional on October 24, 1975. His inaugural speech, "Conquests and problems of contemporary medicine", was

answered by famous cardiologist Dr. Ignacio Chávez.

I consider that, of all of his brilliant academic career, the most transcendental thing for Mexican medicine was his university participation. Dr. Raoul Fournier, as Director of the National School of Medicine of the UNAM, appointed him Head of the Department of Graduates. This position gave rise to the current Division of Graduate Studies. Later, with the approval of the University Council in 1960, the National School of Medicine became the School of Medicine. The Hospital de Especialidades del Centro Médico Siglo XXI was named after him.

Doctors who knew him and collaborated with him in the various fields in which he participated agree that he belongs to a medical generation that transformed Mexican medicine.

Dr. Bernardo Sepúlveda Gutiérrez died on March 17, 1985, in Mexico City.

DR. MANUEL QUIJANO-NAREZO *(Figure 10)*

A native of San Luis Potosi, Dr. Manuel Quijano was a cultured man, an excellent surgeon, and a great university student. He frequently used the phrase of José de Letamendi, a great Spanish physician who said: "the doctor who always talks about medicine, does not even know medicine". Together with the professors of the General Surgery course of the General Hospital of the CMN of the IMSS, they put a lot of effort during the selection of the surgical aspirants, investigating their hobbies and knowledge of culture in general, especially music and art. I remember that in one of the few breakfasts I had the opportunity to personally meet him, years after leaving the IMSS, he told me that one of his passions was traveling, and that he preferred to have an old-fashioned car, so he could invest that money in enjoying trips abroad. He told me, with some sadness, that his next trip to France would be the last he would make because of his age, and because of the socioeconomic changes we were experiencing at that time in our country.

As a remarkable surgeon, he has a very long history, so I will only relate the highlights of his professional activities, without keeping a chronological order of his time at the IMSS, UNAM, SSA, international organizations and as a surgeon.

During the funeral tribute to Dr. Gustavo Baz in the auditorium of the School of Medicine of the UNAM, I had the opportunity to sit next to my teacher, Dr. Manuel Quijano, who told me that he had also been one of the first Mexican doctors favored by the scholarship program for foreigners, instituted by Dr. Baz as Secretary of Health and Assistance in the forties. Dr. Quijano began his surgical residency at the General Hospital of Mexico in 1944 and went to the United States of America in 1945, to continue his surgical training at St. Lucke's Hospital, then at the Lahey Clinic and at the Massachusetts General Hospital, perfecting his knowledge at the Saint-Louis Hospital in Paris. These preparation trips were not easy to make, only with his effort, sacrifice, tenacity, economy savings, and desire to succeed allowed him to realize his dream of life. At the same time, he managed to broaden his culture, which he used with simplicity. Upon his return, his surgical skills allowed him to excel in the National Institute of Nutrition, which transcended as the best

Figure 10: *Dr. Manuel Quijano-Narezo.*

surgeon of the moment, so that Gustavo Diaz Ordaz, President-elect of Mexico, requested his professional services to operate his wife for a vesicular lithiasis.

Dr. Ignacio Chávez, as Rector of the UNAM (1961-1966), called Dr. Manuel Quijano to take charge of School Services, a commitment that forced him to leave surgery and his work at the National Institute of Nutrition. From this position he was able to bring order to the school procedures at the Rector's Office. He consolidated six student federations into one. The procedures for studies, internship letters, or setting dates for professional exams were more efficient. Established satellite offices, decentralizing the main school services office. He designed a sheet for possible procedures and operated the undergraduate admission exam, which to date continues to be an important element for the academic improvement of UNAM. Going back in time, in 1958, as professor of Introduction to Surgery at the School of Medicine of the UNAM, he was allowed to perform operations on dogs, creating the Department that later became known as "Experimental Surgery".

After two years, in 1963, he resigned at the invitation of Mr. Benito Coquet to direct the recently inaugurated General Hospital of the IMSS National Medical Center.

His transit through our main University did not end there. From 1968 to 1977 he was a member of the Board of Governors of the UNAM, so he was closely involved in the student movement. For two years (1978-1979) he was head of the office of the Graduate Division of the School of Medicine. In short, he started the admission exam for the medical degree at UNAM, was a member of the Board of Governors and finally he created the Revista de la Facultad de Medicina as its editor.

During an interview he commented that in those years (decade of the 60's) the work on organ transplants was outstanding. None had been performed in Mexico and to gain experience he worked on corpses and dogs. Let's remember that kidney transplantation as a treatment started in Russia in the 30's, obviously with bad results. On May 5, 1963, the first successful liver transplant was reported by Dr. Thomas Starzl.[8]

On December 4th of that same year, the first kidney transplant was performed at the General Hospital of the CMN of the IMSS by Dr. Manuel Quijano, Dr. Federico Ortiz-Quezada, and Dr. Gilberto Flores-Izquierdo.

In 1964, when he was director of the General Hospital of the IMSS Medical Center, in an undoubtedly visionary act, he authorized the creation of a Psychiatry Service. A good idea, which was echoed in the SSA, and which I was able to verify when I became director of the General Hospital of Tlalnepantla, in the State of Mexico. Unfortunately, sometime later this specialty disappeared from the hospital organization chart.

The program of university recognition of residencies began in 1965 and he was appointed head of the residency in General Surgery, establishing a rotation plan for various specialties, to train the resident to operate abdomen, neck, gynecology procedures, and perform cesarean sections, and rotating through a service of orthopedics and peripheral vascular, as well as in the emergency departments. This program was accepted and implemented in all General Surgery courses.

As a thoughtful and visionary professor, he gathered all the professors of general surgery services to create the Mexican Council of General Surgery. On November 11, 1978, it was registered before the Ministry of Foreign Affairs and the National Academy of Medicine, gathering 1,769 surgeons who accepted a transitory article. Of course, the position of first president was his responsibility.

As professor of the specialty in general surgery on behalf of the UNAM, he stayed until the end of 1972. Dr. Luis Ize was the penultimate chief resident, and due to his promotion to the newly created parenteral nutrition service, he left the position vacant which I assumed during the last four months of that generation. For that same reason, I was the last chief resident of the general surgery course of Dr. Manuel Quijano-Narezo.

After leaving the Direction of the General Hospital of the CMN of the IMSS, his intellectual capacity and preparation granted him a place to participate as Scientific Attaché in the Mexican Mission to UNESCO in Paris, France (1980 to 1983). During that time, he had

the opportunity to work with Dr. Guillermo Soberón. When he returned to Mexico, Dr. Soberón, by then Secretary of Health, invited him to collaborate in the SSA in the General Directorate of International Affairs (1983-1989). He was Scientific Advisor of the World Health Organization (1987-1989) and President of the World Health Organization in 1989.

He was an active member of national and international medical and surgical Academies and Associations, among which he was a Member of the Academy of Surgery, Paris, and Officer of the Ordre National du Mérite, of the French Republic.

One of his natural attributes, which allowed him to describe his ideas and experiences, was writing. He wrote more than 60 scientific articles, countless editorials and two books: "Fundamental Principles of Surgery" in two volumes in 1981, which became a surgical literary work that was indispensable tool for residents and surgeons of that time, and dissertations and repetitions edited by Siglo XXI and co-published with the UNAM in 2003. His participation in book chapters on health and politics that deserve to be noted such as in "International Cooperation for Health. Mexico International Politics in the 80's (*La cooperación internacional en materia de salud. La política internacional de México en el decenio de los ochenta*)". Fondo de Cultura Económica, 1994. "Mexican medicine in globalization (*La medicina mexicana en la globalización*)". "A century of health sciences in Mexico (*Un siglo de ciencias de la salud en México*)", edition coordinated by Hugo Aréchiga and Luis Benítez Bribiesca published by the Fondo de Cultura Económica, First edition, Mexico 2000. As editor of the journal of the School of Medicine, his most important achievement was to publish it for general practitioners, in addition to indexing it and increasing its circulation to 20,000 copies.

DR. LUIS LANDA-VERDUGO (1926-2010) *(Figure 11)*

Undoubtedly, Dr. Luis Landa was an exceptional and excellent Chief of Service, with an iron character, disciplined and with a tough personality. I met him during my residency, when I rotated through his service, and later he was my chief when I was selected in 1973 to fill the vacancy left by Dr. Gustavo Baz Díaz-Lombardo.

Like all humans, he had natural and acquired attributes, good and bad. I should not judge him, so I can only comment on what I experienced during the time I worked under him. His service, its distribution, the pairs of gastroenterologists and surgeons he created, the bibliographic and radiological sessions, etc., have already been described above. In all of them there was a commitment to improve, to increase knowledge and experience, with the sole purpose of serving and making the best Gastroenterology Service of the IMSS.

Perhaps we will understand better his haughty and sometimes arrogant personality, but mainly that of a leader, if we remember an anecdote told by the wife of a surgeon who accompanied them to a congress somewhere in the Mexican province, by land, with several hours in the public transport of that time: *"While most complained about the heat and dust, at an obligatory stop of the bus, Dr. Landa got off and in the public restrooms of the bus terminal washed, shaved, combed his hair and*

Figure 11: *Dr. Luis Landa-Verdugo.*

changed his shirt and tie, and returned to the bus as fresh as if he were just starting the trip, an attitude that surprised the rest of travelers".

He never missed an opportunity to participate and improve the image of his service. When a congress or meeting was approaching, the usual sessions were suspended to dedicate ourselves to presenting our papers and correcting them down to the smallest detail, either orally or written. On the other side of the coin, when he or one of his assigned physicians attended international or world congresses, they would reproduce the new developments in the sessions and later we would put them into clinical practice. I still have a copy of the document of a symposium on pancreas held abroad that he attended, and that upon his return was reproduced in several sessions, so that our knowledge of this pathology was immediately and significantly updated. As a researcher, his fields of interest were on hepatitis and amebiasis, and with Professor Sepulveda, they created the protocol for the management of portal hypertension, as well on the use of the first oral H2 blockers. I remember the first session on hormones of the digestive tract, which today is still being researched and producing important discoveries in type 2 diabetes, obesity, and other topics.

His door was always open to innovation, to creative work. The example is the support he gave to Dr. Rafael Alvarez-Cordero, to create the Intensive Care ward on the sixth floor (the surgical patients' floor) of the HG of the CMN of the IMSS.

In his service he started a routine, but I do not know who initiated it. On the surgical note sheet there must be a drawing demonstrating the surgery performed. It is important to mention this, because many residents preferred to carry their box of colored paint pencils, instead of a scalpel. With time these drawings became mandatory, which Dr. Landa rewarded with verbal congratulations to the sketcher rather than to the surgeon.

The Gastroenterology Service was considered one of the best, if not the best in the country, so that important patients from politics, science, arts, and cinematography would come to recover their health.

Dr. Landa was Director of the HG of CMN for a brief period -fourth director- and migrated to the Subdirección Médica del ISSSTE and later to the Direction of the Hospital de Xoco belonging to the Department of DF. He continued until the end of his life practicing private medicine, until he suffered with Parkinson's disease, and finally a complicated gastrointestinal bleeding led to his death.

DR. GUSTAVO BAZ DÍAZ-LOMBARDO (1933-2009) *(Figure 12)*

Son of Dr. Gustavo Baz-Prada, Dr. Gustavo Baz Díaz-Lombardo was born in Mexico City. He was the first surgeon to arrive at the HG of the CMN of the IMSS at a young age, with a background of surgical residency at the University of Minnesota (1958-1961) whose professor was renowned Dr. Wangesteen, and at the National Institute of Nutrition, where he became chief resident (1961-1963).

As a surgeon and professor of surgery for the university course, he always had excellent relations with the residents because of his youth and character. He liked music, it was always pleasant to operate with him because whenever possible, in his operating room you could listen fine sounds that relieved stress. As a friend I was fortunate to know him and learnt about his taste for good sound equipment and classical as well as popular music. We would affectionately call him a puppy of the "Mexican Revolution", to which he would respond with a smile.

The surgical topics in which he participated in an outstanding way were the surgical treatment of obesity -non-absorptive surgery-, single plane anastomosis, treatment of portal hypertension, surgical treatment of complications of amebiasis. Regarding this pathology, he designed and had special needles made for the puncture of amebic liver abscesses, which at that time were very frequent. I still use those needles in laparoscopic surgery when it is necessary to puncture an acute gallbladder. In gallbladder and biliary tract surgery, he moved like a fish in water. To remember is his manual technique without vision for the removal of pio-cholecysts, hydro-cholecysts or acutely inflamed gallbladders, technique that is not described in textbooks. One of his greatest

Figure 12: *Dr. Gustavo Baz Díaz-Lombardo.*

surgical successes was the operation performed on a patient (MNS) during an on-call shift, who presented a state of shock due to acute mesenteric ischemia, which included jejunum, ileum, and right colon. It was necessary to remove all the intestinal segments mentioned and reconstructing the intestinal transit with a duodenum-colic anastomosis, which allowed the patient to survive for more than 30 years. This was an exceptional and unique case.

Another interesting anecdote that allows us to remember the personality of Dr. Baz as a surgical professor was frequently told by Dr. Antonio Escobedo, from Tampico, Tamaulipas (now deceased). He recalled that when he was his resident, when his wife was in an operating room as a patient, Dr. Baz ordered him to operate in the neighbor operating room. Baz ordered him to operate on a patient in the next operating room, so that he would temper his surgeon's courage, because it was necessary for him to have that experience, since the surgeon does not know when he will be called to operate, regardless of the surgeon's moods, and he should always be ready to render his professional services. When he finished operating the important part, he replaced him and allowed him to appear in the operating room where his wife was being operated on.

With his genetic inheritance, together with his intelligence and preparation, he thrived both in the surgical field and in the public health field. After a short life as a surgeon (10 years), he decided to enter the field of Public Health. One morning in 1973, at the end of our surgical activities, he invited me to visit a new hospital, located in Ciudad Netzahualcoyotl, in the neighborhood La Perla, Municipality of the State of Mexico, which was part of a new generation of SSA hospitals. After visiting it, he asked me a question, he asked my opinion about the proposal that Dr. Jorge Jiménez-Cantú, at that time Secretary of Health, had invited him to be the director of that new hospital, in addition to developing a regional health system. My response was immediate. Considering that he was a surgeon in an enviable place, with an even more promising future, and considering the distance and the radical change that his administration required, my answer was negative. Months later I found out that he had requested permission from the CMN to start his administrative activities in health, without any hesitation. His political and public health genes had won the initiative. Therefore, the winner of the position in the Gastro Surgery Service was me. Mexico's surgery had lost a great surgeon but had found an excellent public health physician who would make many substantial changes at the first-level health care. Sometime later he told me that Dr. Jorge Jiménez-Cantú did not accept his refusal, commenting that being a pioneer in installing a new health system would allow him to increase his image politically, opening so a promising future for him, besides bringing health to the population most in need of new hope.

As his acting resident, I had the opportunity to share important times in his professional life. Undoubtedly, a friendship developed that lasted until the last day of his life. First as his resident, then as a practice partner and collaborator in the State of Mexico, and finally a friendship that survived for almost 40 years.

After the direction of the Hospital de La Perla, he was promoted to Secretary of Health of the State of Mexico, a position he held with four governors, during which he created a new health system, an example for the Mexican Republic and taken to Latin America and Africa. His leadership led him to change the name and function of the Secretary of Health of the State

of Mexico to the Institute of Health of the State of Mexico. He surrounded himself with health physicians that he trained at the School of Public Health that he founded together with the Autonomous University of the State of Mexico, who helped him to solve and implement the health programs that transformed the State of Mexico during his leadership. Under his tutoring, mental health, ophthalmology, and emergency care programs were created.

On October 11, 1976, Dr. Jorge Jimenez-Cantu, Constitutional Governor of the State of Mexico, instructed the head of the Coordinated Public Health Services (ISEM) Dr. Gustavo Baz Diaz-Lombardo to initiate operations of the Emergency Services of the State of Mexico (SUEM), as a result of a flood in Santo Domingo de Guzman, Municipality of Ixtlahuaca, since at that time there were no specialized emergency services in the state. If it was not the first Emergency Service at the state level, it was one of the first where young people were physically prepared, with updated and humanized techniques, focused on pre-hospital care and rescue of victims.

He founded the School of Public Health of the State of Mexico to train sanitary doctors who were indispensable for the unexpected demand due to the programs implemented by the State Health Services. Of course, it produced rejection, adverse comments, especially from the traditional health professionals in Mexico, because it took away the hegemony of the federal School of Public Health, dependent on the SSA, the only one that produced this type of specialists. By 1991, 630 professionals had completed the course and 134 were in process.

The operational essence of the regionalization of health services was the control section called the Primary Health Care Unit (UAPS). Each municipal coordination was divided into micro-regions where 2,500 to 3,000 inhabitants (450 to 500 families on average) were located. Thus, each municipal coordination controlled 10 micro-regions, with an average of 30 to 60 thousand inhabitants.

I consider that his greatest achievement in his work as a public health doctor was to have devised, created and implemented the PRODIAPS program, which was implemented in 2,350 micro-regions in the State of Mexico, and a technician person called primary care program operator was hired. These technicians were natives of the community in which they worked and with a primary education level in urban areas. In all cases they participated and had to pass the specific course. These workers were in a permanent training process, and the experience they developed allowed them to become true health technicians. Their work was improved by providing them with digital instruments for the collection of census data from the micro-regions in their charge. With this information, the family health diagnosis was developed in the State of Mexico as an advance and innovation due this technique and its fundamental purpose was to cover the objectives of the health diagnosis, but starting with data collection from the family nucleus, which was considered for these purposes as a social epidemiological unit, subject to descriptive and analytical study. This program was disseminated and accepted worldwide. Its dental health (iodized and fluoridated salt) and ophthalmology programs were copied and adopted in European, African, and Latin American countries. In the ophthalmology program, he demonstrated that 35% of the children in Mexico, and not 10% as was mentioned in the literature, had visual problems.

After the 1985 earthquake, the Health Services of the Federal District and the suburban municipalities of the State of Mexico were restructured. Of the hospitals programmed by the Federal Government, the Ministry of Health was able to build them in the municipalities of Naucalpan, Atizapán, Cuautitlán, and Nezahualcóyotl, to stop the influx of patients from those municipalities to the hospitals in Mexico City. In addition to the mentioned hospitals 70 municipal hospitals and 200 clinics or doctor's offices were built during this period. He received the health services of the State of Mexico with 750 workers and handed it over 20 years later with more than 20,000 and an important track record.

His work in the SSA continued when he left the ISEM (Health Institute of the State of Mexico). He was Director of Sectorial and International Affairs of the SSA, and later participated in health care programs for the

open population. He was also part of the Directorate of Programs and Development of Public Health Services in Mexico City, and in the Undersecretary of Health of the Mexico City government. He returned later to the SSA where he was an advisor to the Undersecretary of Innovation and Quality, when he was surprised by the disease that led to his death.

He was founder of the Mexican Association of General Surgery, member of the Mexican Association of Gastroenterology, and of the American College of Surgeons. He continued his postgraduate academic preparation with management diplomas dedicated to personal improvement and the best application to regional and municipal health.

His teaching activities were professor in the specialties of general surgery and surgical gastroenterology at the School of Medicine, Master in Public Health in the schools of medicine of the Autonomous University of the State of Mexico and UNAM, professor in the master's degree in Hospital Administration in the School of Accounting and Management of the UNAM and guest professor at various medical schools in the Mexican Republic, as well as in academies and medical associations.

His participation in academies, societies and professional associations was multiple and varied. Just to mention a few were World Chairman at the 23rd World Congress of Medical Informatics in Switzerland. Vice President of the Mexican Association of Schools of Public Health in Latin America and later President. Member of the Mexican Association of Public Health. Founder and President of the Public Health Society of Mexico City.

His international presence reveals that he participated in conferences and in the implementation of various health programs in the following countries: Cuba, Venezuela, Peru, Costa Rica, Holland, Switzerland, Egypt, Canada, France.

He was always a lover of sports, practiced physical exercise, swimming, skiing, archery, and Olympic rifle shooting. His passion was sailboats, so every year he went to the city of Miami, Florida, USA, to attend the Expo boat. His youthful character and simplicity allowed him to be a charismatic man who always had friends in many hospitals and in the immense field of public health. We never saw him upset or angry, so it is considered that he was a kind man. On April 22, 2009 the newspapers of the city of Toluca reported his death, when he did not resist a heart surgery.

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Responsibility towards the unborn. Teratogenesis and bad life. Comments to the book by Dr. Alberto Campos

Responsabilidad hacia el nonato. La teratogenia y la mala vida. Comentarios al libro del Dr. Alberto Campos

César Gutiérrez-Samperio*

Keywords:
Bioethics, responsibility, unborn, teratogenesis, quality of life.

Palabras clave:
Bioética, responsabilidad, nonato, teratogenia, calidad de vida.

ABSTRACT

The Zika virus (ZIKV) epidemic in Brazil in 2015 revived the abortion controversy because of the association between intrauterine infection and a combination of very severe and disabling malformations during the lifetime of live births. The book under review here questions whether it is enough to be born to disregard profound disabilities throughout a lifetime. It asks whose responsibility it is to carry out an abortion or whose responsibility it is for the lifelong suffering of a baby born with malformations and profound disabilities if such an abortion is not carried out. The fundamental premise of the book is that to understand the controversy and moral dilemma it is necessary to go to the epistemology of the medical problem. Then, instead of answering questions with statistics, valid recommendations can be made about possible consequences and moral implications of a dilemmatic choice. The book analyzes moral, ethical, legal, and social issues of decision making. It also encourages reflection on a current ethical problem and on other bioethical dilemmas in the practice of medicine.

RESUMEN

La epidemia del virus Zika (ZIKV) en Brasil en 2015 reactivó la controversia sobre el aborto por la asociación entre la infección intrauterina y una combinación de malformaciones muy graves y discapacitantes durante la vida de los nacidos vivos. El libro que aquí se revisa cuestiona si es suficiente nacer para que no se tomen en cuenta discapacidades profundas a lo largo de toda una vida. Pregunta de quién es la responsabilidad de llevar a cabo un aborto o la del sufrimiento vitalicio de un nacido con malformaciones y discapacidades profundas si tal aborto no se lleva a cabo. La premisa fundamental del libro es que para entender la controversia y el dilema moral es necesario ir a la epistemología del problema médico. Entonces, en vez de responder preguntas con estadísticas podrán hacerse recomendaciones válidas sobre consecuencias posibles e implicaciones morales de una elección dilemática. El libro analiza aspectos morales, éticos, legales y sociales de la toma de decisiones. Mueve también a la reflexión sobre un problema ético vigente y sobre otros dilemas bioéticos en la práctica de la medicina.

I thank our Mexican Association of General Surgery, and in particular Dr. José Alberto Campos Campos, for the invitation to present his book *Responsibility towards the unborn*. Teratogeny and bad life (*Responsabilidad hacia el nonato. Teratogenia y la mala vida*). I would like to begin by mentioning two antecedents that seem very important to me.

1. Dr. Campos' thesis for the degree of Doctor of Science entitled *Genesis and consequences of bioethical dilemmas from scientific controversies* received the "Aurora Arnaiz Amigo 2019 Award for the Best PhD Thesis in the Field of Bioethics".
2. Shortly thereafter, the book I am now commenting on, and which I presented at the XLIII International Congress of General Surgery, was the winner of the "Writing for Bioethics Contest", organized by the University Bioethics Program (PUB) of the National Autonomous University of Mexico, UNAM.

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Having said the above, it is convenient to indicate that some of the concepts analyzed in the 360 pages of his doctoral thesis are applied in this book presented today, which fortunately is brief and concrete, consisting of only 50 pages, with very demonstrative illustrations and an ample bibliography, updated and limited in the text.

The first part talks about the recent Zika epidemics, its epidemiology, pathogenesis and anatomopathological alterations. It focuses on the one that occurred in Brazil in 2015. It clearly describes the congenital Zika syndrome (CZS), the way in which the Zika virus (ZIKV) is transmitted by *Aedes africanus*, *Aedes aegypti* and *Aedes albopictus* mosquitoes, and which produces alterations in the central nervous system and the peripheral motor system, resulting in two joint syndromes:

1. Disruption of the fetal brain sequence (DSCF). The neurotropic Zika virus attacks the progenitor cells of the brain and produces necrotizing viral encephalitis with destruction of brain tissue, which in turn results in decreased intracranial pressure, causing the vault to collapse toward the base of the skull, with bone nodding and microcephaly.
2. Fetal akinesia deformation sequence (FADS). ZIKV also produces alterations in electrical signaling in the neuromuscular plate, which prevent nerve conduction, followed by a characteristic sequence of events that result in muscle atrophy. The most plausible mechanism is the tropism of ZIKV for motor neurons, central or peripheral.

It is worth mentioning that most SZC survivors do not develop beyond the age of a two-month-old child. They suffer seizures and painful contractures and dysphagia and die at an early age.

Although the brain structures are complete at 12 weeks, the total number of neurons is not complete until week 18. Therefore, it is probable, and even more frequent, that in the first 12 weeks the alterations of the central nervous system are not detected.

Dr. Campos says in this book that to understand the moral issue it is necessary to go to the epistemology of the medical problem, so as to be able to make valid recommendations on the consequences of the alterations, and not only answer the questions of pregnant women with figures, since the frequency of malformations of a disease and the probability of its occurrence in a given patient are not the same thing. Frequency figures and data alone do not say much. The moral dilemma does not lie simply in the disease or its pathogenesis, but in the management of the patient in the face of severe congenital alterations for which there are no treatments, the option of which is late termination of pregnancy, a palliative intervention that produces relief (for the mother) but does not cure either her or the fetus.

To give some order to my presentation, I will divide it into 1. moral issues, 2. ethical issues, 3. legal issues, 4. social issues and 5. a final reflection and possible conclusions.

1. Moral issues. Decision-making by health personnel and parents is influenced by the norms and moral values derived from their religion, conditioning their personal beliefs and ideology. This is where they find psychological balance and moral self-sufficiency, and where they feel existentially secure. But, in general, the influence of health personnel, whose opinion has an impact on the parents' decision, is strong.

Alberto says: there is a panoply (complete armor with all its pieces) of arguments, ill-formed and without logical consistency, arguments such as "life is sacred", the fetus is "in potential" a human being, "it must be born, live and die as God wills", and other similar ones. If such reasoning were accepted, medicine would have to be discarded and everything would have to be left to natural evolution. Pregnancy at term of fetuses with anencephaly, incompatible with life, would be allowed, and many of us would have died, "as God wills", from diseases such as appendicitis or pneumonia, which can be cured.

In the case of SZC, arguments can be discussed as to which alterations compromise life and which give rise to anatomical or functional changes that make it intolerable, such as seizures and painful muscular contractures, of such magnitude that they can cause dislocation of the elbows or knees.

When the diagnosis of SZC is made, the fetus may already be viable, but if the pregnancy continues and culminates in birth, what alterations will the newborn have and suffer? And the few survivors, and for a very short time, what quality of life will they have?

The fetus and the newborn are an essential part of the dilemma, but they are not autonomous, they cannot decide, so the decision corresponds to the parents or the legally responsible person.

There is no doubt that killing an innocent person is immoral, ethically, and legally unacceptable and punishable. But in the case of SZC, the fetus is a victim, whose suffering, in the short or medium term, will have repercussions on the mother and the family, who will be affected physically, psychologically, morally, and socially. That is why it is convenient to change the idea of "killing an innocent person", since it is evident that a fetus is not an aggressor. The dilemma is to interrupt the development of a fetus with very severe abnormalities, with little chance of survival and no chance of having a normal life.

Dr. Campos cites in his book the comments of Jorge Mario Bergoglio, Pope Francis I, in February 2016, who with a negative critique disqualified doctors who terminate pregnancy, comparing them to the mafia, and saying that abortion is "an absolute evil" and that "one person is murdered to save another [...] to live comfortably". Francis I compared abortion to eugenics, equating the doctors' actions to "a version of the Nazis' attempts to create a pure race by eliminating the weakest". Pope Francis' statements influenced many women infected with ZIKV not to terminate the pregnancy and were then, in effect, condemned to suffer the care of those born alive with severe disabilities, some of whom died shortly thereafter.

The author discusses the moral dilemma very extensively, so it is advisable to read the book carefully, if necessary two or more times, to understand its essence. There he discusses the following dilemma: a) to terminate the pregnancy upon diagnosis of brain damage by ZIKV to avoid the suffering of a child who would be born with severe disabilities, which would leave the mother with a very severe moral residue in the form of remorse or guilt, or b) to allow the birth of a child with irreversible organic and functional brain damage, which together with the alterations of the peripheral nervous system will lead to severe disabilities and suffering, with the consequence that the few survivors would not live a normal life.

The decision is up to the mother, in accordance with her beliefs and values, but influenced by the information that appears in the mass media (press, Internet, social networks) and the opinions of personalities such as Pope Francis I.

Doctors devote little time to each case to provide, in the face of uncertainty, understandable information that helps the mother and family to decide and to give or not to give truly informed consent. But that does not solve the dilemma.

2. Ethical issues. A profound reflection on moral precepts, values, the relationship of ethics with the law and with other disciplines of the humanities is required. An ethical controversy that is secular and open is necessary. An analysis of each case, after evaluating the social, economic, and psychological conditions of the parents and the family, their ideology, their religion, and beliefs should be done, which in any case must be respected.

To have a pertinent question and an adequate answer, it is necessary to convert ideological problems into factual problems and to consider them from the point of view of the sufferer, and not to rely on the beliefs of other moral actors, who do not suffer the problem, and do not understand it in first person. From this ethical reflection may arise, for example, the following questions: what is better for a severely malformed fetus: a good death or a bad life? Is allowing the birth of these children worse than not having been born at all? Is fetal euthanasia morally different or equal to adult euthanasia?

3. Legal issues. When Dr. Campos addresses the conflict between ethics and law, he refers to the Universal Declaration of Human Rights, which in its 3rd article states, "Everyone has the right to life, liberty and security of person." In this case, the question arises: what is being preserved, life or security? The preservation of that right would become the obligation to live with profound, severe disability, with endless

pain and suffering. Article 5º stipulates that "no one shall be subjected to cruel, inhuman or degrading treatment or punishment", as in fact happens to those born with SZC, who are subjected to torture and the penalties of their disease. Forcing them to live in this way is cruel, inhuman, and degrading. Thus, the spirit of Article 5 contradicts the spirit of Article 3.

In the Political Constitution of the Mexican United States, Article 1 states that "every person shall enjoy the human rights recognized in this constitution and in the international treaties to which the Mexican State is a party", while Article 4 mentions that "every person has the right to the protection of health, to a healthy environment for their development and well-being", which for these fetuses does not exist, neither in the intrauterine environment nor after birth. On the other hand, Article 188 of the Regulations of the General Health Law of the Federal District speaks about the obligatory nature of gestational age and genetic or congenital anomalies, based on specific studies. The legal framework exists, but it is not commented on, much less used.

We can see that there are legal loopholes that leave aside serious moral problems. The right or obligation to be born, generates a conflict between ethics and law, between the hypothetical and the real. The preservation of the right to life becomes an obligation to live with profound disability, which implies the violation of other rights.

Duties, responsibilities, and justice towards the unborn are established from the moment of the diagnosis of SZC; so, there is a moral relationship. The parents, the physician and even the State can prevent severe disabilities by allowing the termination of the pregnancy and thus act, strange as it may seem, for the benefit of the unborn child. The mother's inaction due to negligence or fear leads to advanced stages in which it is no longer possible to act, or acting is already illegal, where late-term abortion is confused with neonaticide.

4. Social issues. The interruption of a pregnancy or the birth of a child with severe disabilities and condemned to a premature death has a great impact on the parents, the family, and its entire social context. Their system of life, their activities, and the relationship of all the components of this system will be altered, which in some cases can destroy the family.

There is much and often enough talk about the unfair discrimination against the disabled. On the contrary, terminating a pregnancy is an attempt to prevent them and their families from being discriminated against after birth, since they receive no support, neither public nor private. The State does not allocate sufficient public resources to address this serious problem.

5. A final thought. The only way to put an end to teratogenesis is to stop the process by interrupting the pregnancy. In this dilemma, both action and omission generate moral responsibility, sometimes difficult to establish, because neither the consequences nor their magnitude can always be predicted.

For example, does the mother deserve punishment when she acted under moral pressures and social criticism? In deciding her culpability there is always a conflict of interest between the family, health personnel and religious ministers. The mother is not responsible for the disability of the newborn, but she is responsible for continuing or not the pregnancy and even more so for a clandestine abortion, such as the many that were carried out in Brazil.

In "avoiding maleficence" by allowing the birth of these babies, are they really being spared an evil and doing them a good? By allowing these births, we unjustly allow the suffering and bad life of this human being. We must also reflect on what is good and what is right, but sometimes, as in these cases, that is very difficult to determine.

Some possible conclusions are

1. SZC produces morphological and functional alterations and severe disabilities for which there is no treatment. At the moment of diagnosis, responsibility is acquired for the unborn child, the mother and the family. But deciding who acquires this responsibility is a difficult problem to solve.
2. Without responsibility, justifications and excuses arise, which are often confused. Justification implies accepting responsibility, but denying the harm done. Excusing is accepting maleficence, but not the intention

to cause it; the intention of not wanting to do harm is insufficiently invoked in the face of the harm itself. Both are ways of evading responsibility.

3. The moral dilemma is not the ZIKV infection, nor the malformations of the nervous system per se, but to terminate the pregnancy to avoid teratogenesis and severe disability, or to let the child be born and suffer from them, with the consequent suffering of the child and all those around him/her.
4. The mother's decision by commission (termination of pregnancy) or omission (letting the child be born) is influenced by her ideology and religious beliefs. Her understanding of her problem, as well as her decision, is often more emotional than rational.
5. The intention here is not to kill, but to prevent suffering through fetal euthanasia, a dignified humanitarian solution for the mother, fetus, and family. Avoiding maleficence by terminating the pregnancy or accepting the injustice of a future life full of disabilities and suffering. I repeat, isn't a good death better than a bad life? Abortion relieves the mother, but does not cure her, and does not cure the fetus either. For these malformations there is no cure.
6. As Dr. Campos rightly says, it is important to understand epistemology to assess moral dilemmas and then to be able to offer some kind of alternative that suits those directly involved, so that they can make an already difficult decision. There is a need for secular proposals with scientific evidence and support in moral, ethical, social, and legal issues.

I congratulate Dr. Campos once again. His book encourages reflection on a current ethical problem. Its reading will help in making difficult decisions in this serious problem, but also in the solution of other moral and bioethical dilemmas that often arise in the practice of medicine and surgery.

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Surgery and medicine in times of COVID-19

Cirugía y medicina en tiempos de COVID-19

Edwin Leopoldo Maldonado-García,* Salvador Chavarría-Vázquez‡

From the decadence of Emperor Romulus Augustulus' Roman Empire due to a mystical worldly expiration and its endogenous causes, to the times we live in of the political-economic fall precipitated by the civilizations bent by the contagion (COVID-19), the squandering in the period of the oil bonanza, the information age and the absence of the sine qua non of moratorium identity, make us think that man, having challenged nature itself (an illusory concept of welfare of a merely predatory living being), has led by cycles to the restart of the ideology.

It seemed that physicians and surgeons had seen it all already. The most complicated clinical cases and challenges during medical residency were overcome by the expertise and intelligibility of the thinker, who brings to success the surgical procedure; however, we realized how fragile and susceptible we are facing a pandemic. We will never bend, but the constant evolution of techniques, forms and concepts changed and led us to perform surgeries with greater stress.

Continuing medical education has been presented in an electronic medium that, although with the ingrained foundation of theory without practice is sterile, has reached beyond the frontier of the Internet user and has managed to transmit knowledge and feeling in real time.

The economy will have to re-emerge from the countries that manage to restructure, but the re-emergence of new minds will only occur in individuals who have seen beyond their own survival. It will not be enough to give an evolutionary sense with the technology we have. The consent to these new ways of "thinking" will come from leaders who are convinced that the change of humanity lies in a Roman twin, MMXX (2020).

It was a moment to stop and find ourselves. Innovation was present and led us to such a simple but profound phrase by Savater: "look where…".

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☐ The manuscript should be typed in Arial font size 12 points, double spaced, in letter size format, with 2.5 cm margins on each side. The standard page consists of 30 lines, of 60 characters each line (1,800 characters per page). Words in another language should be presented in italics.

☐ The text should be presented as follows: 1) title page, 2) abstract and keywords [in Spanish and English], 3) introduction, 4) material and methods, 5) results, 6) discussion, 7) acknowledgements, 8) references, 9) appendices, 10) text of tables, and 11) figure captions. Each section should start on a separate sheet. The format can be modified in review articles and clinical cases, if considered necessary.

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☐ From 25 to 30 in original articles, from 25 to 35 in review articles, from 10 to 15 in clinical cases. They must be identified in the text with Arabic numerals and in progressive order according to the sequence in which they appear in the text.

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Six authors:

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Books, note edition when it is not the first one:

Myerowitz PD. Heart transplantation. 2nd ed. New York: Futura Publishing; 1987.

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Hardesty R, Griffith B. Combined heart-lung transplantation. In: Myerowitz PD. Heart transplantation. 2nd ed. New York: Futura Publishing; 1987. p. 125-140.

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Ethical aspects

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