

Clinical case

Fabella syndrome in a high performance runner. Case presentation and literature review

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ABSTRACT. *Objective:* to present a case of fabella syndrome in a 27-year-old high performance runner who responded favorably to the surgical resection of this sesamoid bone, after multiple failed conservative treatments. To discuss the difficulty to diagnose this syndrome due to its anatomical location, and mention the frequent performance of unnecessary arthroscopic studies and procedures in this type of patients. We present the case of a high performance runner who underwent multiple tests and treatments for left posterolateral knee pain, which was resolved surgically; the specimen was sent to pathology for the confirmation of the diagnosis. The presence of a symptomatic fabella was reported in a high performance athlete whose pain was relieved only after surgery. The athlete resumed training and high international level competitions 3 months after surgery. At the 2-year and 10-month follow-up she was completely asymptomatic and competing in high performance athletic races. *Conclusions:* posterolateral knee pain located in the anatomical area of the fabella, in cases in which the latter is present and after ruling out concomitant lesions like that of the lateral meniscus, should initially be managed conservatively. But if symptoms persist, the resection of the fabella, with the appropriate reconstruction of the posterolateral corner of the knee, is a definitive treatment effective for allowing the athlete to resume training and competitions.

Key words: syndrome, pain, knee, athlete.

RESUMEN. *Objetivo:* Mostrar un caso de síndrome de la fabela en una corredora de alto rendimiento de 27 años, que respondió completamente a la resección quirúrgica de este hueso sesamoideo, después de múltiples tratamientos conservadores fallidos. Discutir la dificultad para el diagnóstico de este síndrome por su situación anatómica. Y comentar la frecuencia de realización de estudios y procedimientos artroscópicos innecesarios en este tipo de pacientes. Se estudia el caso de una corredora de alto rendimiento a la cual se le realizaron multitud de estudios y tratamientos para un dolor posterolateral de rodilla izquierda, el cual se resolvió quirúrgicamente, enviándose el espécimen a patología para la corroboración del diagnóstico. Se reporta la presencia de una fabela sintomática en una atleta de alto rendimiento, la cual no mejoró de su dolor hasta la resolución quirúrgica del problema. La atleta regresó a entrenamiento y competencias de alto nivel internacional a los 3 meses de operada. A los 2 años y 10 meses de seguimiento, se encuentra totalmente asintomática y compitiendo carreras de atletismo de alto rendimiento. *Conclusiones:* El dolor posterolateral de rodilla, localizado a la zona anatómica de la fabela, en presencia de la misma y descartando lesiones concomitantes como sería la del menisco lateral, debe manejarse inicialmente en forma conservadora. Pero si persiste la sintomatología, la resección de la fabela, con una reconstrucción adecuada de la esquina posterolateral de la rodilla, será un tratamiento definitivo y eficaz para regresar al deportista a su entrenamiento y competencia.

Palabras clave: síndrome, dolor, rodilla, atleta.

Level of evidence: IV (Act Ortop Mex, 2010)

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Introduction

The fabella is a sesamoid bone located in the lateral aspects of the sural triceps. It is located in the junction of the oblique popliteal and fabelloperoneal ligaments with the lateral head of the gastrocnemius (1). Its reported incidence in the population is 10% to 30%, at times forming a small cavity and joint with the femoral condyle thus helping stabilize the posterolateral wall of the knee.²⁻⁴

Pain as a result of this sesamoid bone has been reported,^{2,4,5} and the presence of predisposing causes of symptomatic presentation in athletes has been proposed.⁶

Clinical case

Female, 27-year old patient from Chihuahua, Chihuahua. Occupation: high performance athlete, 200- and 400-meter sprint runner.

She had a history of right knee arthroscopic surgery at age 15 and right lateral coxa saltans. Bilateral genu varum, foot pronation upon weight bearing.

She began having left knee pain after a workout, which occurred only after running a distance longer than 2 km, approximately. Pain was so severe that it prevented her from going on with her workout.

She saw another doctor, who infiltrated the zone of the fascia lata with depot corticoids. She also underwent physical therapy that included ultrasound, laser and even «ozone therapy».

Upon presenting with us, the clinical exam showed pain in the posterolateral area of the knee, mainly in the posterior horn of the meniscus. She had no irradiation; the pain increased during the final extension of the joint. Meniscal signs were doubtful.

The AP and lateral X-rays did not show signs of lesion of the bone structures.

Knee ultrasound was performed, which reported partial «tear» of the femoral biceps (sic). It was decided to order an MRI.

The MRI reported an «image suggestive of lateral meniscal tear».

She was scheduled for surgery; arthroscopy was initially performed with thorough examination of the lateral meniscus looking for a lesion in the area of the popliteal fossa; no macroscopic lesions were found. Then a posterolateral incision was performed, with dissection by planes, identification and resection of the fabella (*Figure 1*); then reconstruction of the incised posterolateral wall was performed on a plane by plane basis (*Figures 2A, B*).

The patient improved. The patient's complaint subsided progressively and she could start exercising the pelvic limbs, returned to running and could perform her entire train-



Figure 1. Fabella removed from the left knee of a high performance runner.

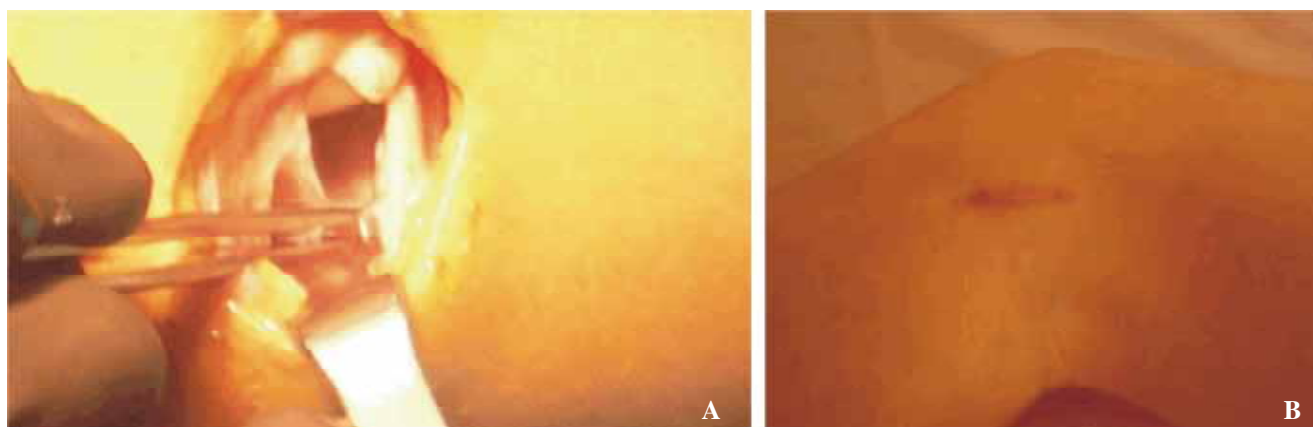


Figure 2. A) Lateral incision above the lateral head of the gastrocnemius. B) Result at postoperative week 3.

ning workout at postoperative month 4; she was able to return to her previous performance level.

She was later selected to be part of the national team attending the Beijing Olympic Games in August 2008 to compete in the 400 meter sprint, 11 months after the surgery.

Two years and 10 months later she was found to be completely asymptomatic and was participating in high performance national and international competitions.

Discussion

Fabella syndrome is a condition that has been reported in the literature as a source of pain.^{2,5,7,8} However, information about athletes is scarce and reports are inconclusive.⁵

One of the major problems in diagnosing this kind of problems is neglecting this condition as a cause of pain in this part of the knee.⁷

Given that this sesamoid bone is in close contact with various anatomical structures, an accurate diagnosis is difficult and/or delayed, and sometimes leads orthopedists to perform repetitive and unnecessary arthroscopic procedures.³⁻⁵

In this patient, the initial pain, apparently diffuse and not «well localized», led to multiple useless tests and treatments that could probably be justified by the atypical presentation of the condition.⁵

The etiology is not well defined in this athlete, but we think that the cause was overuse or repetitive stress during the race or during the lateral jumps she performed during her training by flexing the involved knee, which caused microtrauma in this anatomical area.⁶

Some authors report patient improvement as a response to various conservative treatments. However, none of them mentions the return of athletes to the activities they performed prior to having fabella syndrome symptomatology; they only report pain reduction and function improvement.^{8,9}

A very important fact in these patients is that if they do not improve with conservative or non surgical treatments, symptoms usually subside totally, and almost immediately and definitively, after resection of the fabella and proper rehabilitation.^{6,8} This is precisely what happened to our patient gradually and progressively.

In conclusion, we believe that posterolateral knee pain located in the anatomical area of the fabella, in cases in which the latter is present, and after ruling out concomitant lesions like that of the posterior horn of the lateral meniscus, should initially be managed conservatively. But if symptoms persist, the resection of the fabella, with the appropriate reconstruction of the posterolateral wall of the knee, is a definitive treatment effective for allowing the athlete to resume training and competitions, including high performance athletes.

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