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## From the Archives of the AFIP

### Radiologic Staging of Ovarian Carcinoma with Pathologic Correlation<sup>1</sup>

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Ovarian cancer is the deadliest gynecologic malignancy, with approximately 70% of patients having peritoneal involvement at the time of diagnosis. It spreads predominantly by direct invasion and intraperitoneal dissemination. The staging system is surgically based, with stage I disease being limited to one or both ovaries. In stage II disease, there is extraovarian spread of tumor, but it does not extend beyond the pelvis. Stages III and IV disease are considered advanced, with stage III ovarian cancer including diffuse peritoneal disease involving the upper abdomen and stage IV disease having distant metastases including hepatic lesions. Common sites of intraperitoneal seeding include the omentum, paracolic gutters, liver capsule, and diaphragm. Thickening, nodularity, and enhancement are all signs of peritoneal involvement. Although computed tomography is the most common imaging modality used to stage ovarian cancer, magnetic resonance imaging has been shown to be equally accurate. Currently, however, no imaging modality allows microscopic spread of disease to be ruled out, and a full staging laparotomy is always required. Early ovarian cancer is treated with comprehensive staging laparotomy, whereas advanced but operable disease is treated with primary cytoreductive surgery (debulking) followed by adjuvant chemotherapy. Patients with unresectable disease may benefit from neoadjuvant (preoperative) chemotherapy before debulking.

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## From the Archives of the AFIP

### Meckel Diverticulum: Radiologic Features with Pathologic Correlation<sup>1</sup>

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Meckel diverticulum is the most common congenital anomaly of the gastrointestinal tract, occurring in 2%–3% of the population. It results from improper closure and absorption of the omphalomesenteric duct. Meckel diverticulum is the most common end result of the spectrum of omphalomesenteric duct anomalies, which also include umbilicoileal fistula, umbilical sinus, umbilical cyst, and a fibrous cord connecting the ileum to the umbilicus. The formation of Meckel diverticulum occurs with equal frequency in both sexes, but symptoms from complications are more common in male patients. Sixty percent of patients come to medical attention before 10 years of age, with the remainder of cases manifesting in adolescence and adulthood. Heterotopic gastric and pancreatic mucosa are frequently found histologically within the diverticula of symptomatic patients. The most common complications are hemorrhage from peptic ulceration, small intestinal obstruction, and diverticulitis. Although the clinical, pathologic, and radiologic features of the complications of Meckel diverticulum are well known, the diagnosis of Meckel diverticulum is difficult to establish preoperatively.

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## From the Archives of the AFIP

### Pulmonary Langerhans Cell Histiocytosis<sup>1</sup>

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Pulmonary Langerhans cell histiocytosis (PLCH) is an isolated form of Langerhans cell histiocytosis that primarily affects cigarette smokers. PLCH is characterized by peribronchiolar proliferation of Langerhans cell infiltrates that form stellate nodules. The nodular lesions frequently cavitate and form thick- and thin-walled cysts, which are thought to represent enlarged airway lumina. PLCH lesions display temporal microscopic heterogeneity, with progression from dense cellular nodules to apparently cavitary nodules to increasing degrees of fibrosis that may extend along alveolar walls. In advanced cases, fibrotic scars are surrounded by enlarged, distorted air spaces. Affected patients are typically young adults who often present with cough and dyspnea. The characteristic radiographic features of PLCH are bilateral nodular and reticulonodular areas of opacity that predominantly involve the upper and middle lung zones with relative sparing of the lung bases. High-resolution computed tomography (CT) shows nodules and cysts in the same distribution and allows a confident prospective diagnosis of PLCH in the appropriate clinical setting. In typical cases, a predominantly nodular pattern is seen on CT scans in early phases of the disease, whereas a cystic pattern predominates in later phases. The radiologic abnormalities may regress, resolve completely, become stable, or progress to advanced cystic changes. Treatment consists of smoking cessation, but corticosteroid therapy may be useful in selected patients. Chemotherapeutic agents and lung transplantation may be offered to patients with advanced disease. The prognosis of PLCH is variable with frequent regression, stabilization, or recurrence of disease that does not correlate with cessation or continuation of smoking.

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