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Differential Diagnosis of a Cystic Abdominal Mass: Malignant Transformation of the Urachal Cyst☆

Diagnóstico diferencial de masa quística abdominal: el quiste de uraco malignizado

Malignant degeneration of an urachal cyst is a rare condition that represents less than 0.5% of bladder tumors. It usually has an indolent clinical course and late diagnosis.[1] We present the case of a mucus-secreting adenocarcinoma of the urachus, whose differential diagnosis included mesenteric cyst and ovarian cystadenoma.

The patient was a 74-year-old woman with a history of hypertensive heart disease and dyslipidemia, who was sent to our General and Digestive Surgery department from Primary Care due to an increase in abdominal perimeter over the course of the previous 2 years and progressive decrease of diuresis and intestinal transit, with no weight loss. Upon examination, the patient presented an abdominal mass that occupied the lower abdomen up to the umbilical region. Gynecological examination ruled out gynecological involvement. The patient provided us with an ultrasound report showing a heterogenous hypogastric mass measuring 17 cm×15 cm×12 cm that was cystic in appearance and had superficial calcifications with dense content, with no evidence of internal vascularization. Abdominal–pelvic CT demonstrated a hypodense cystic lesion in the mesentery, measuring

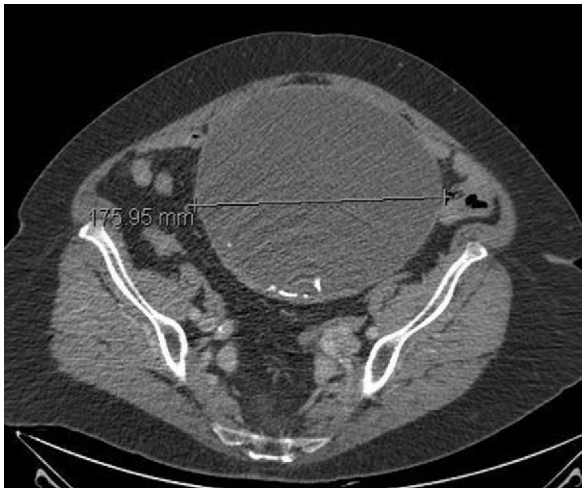

Fig. 1 – CT image where the cystic lesion is observed to occupy a good portion of the abdominal content with calcified images in its interior.

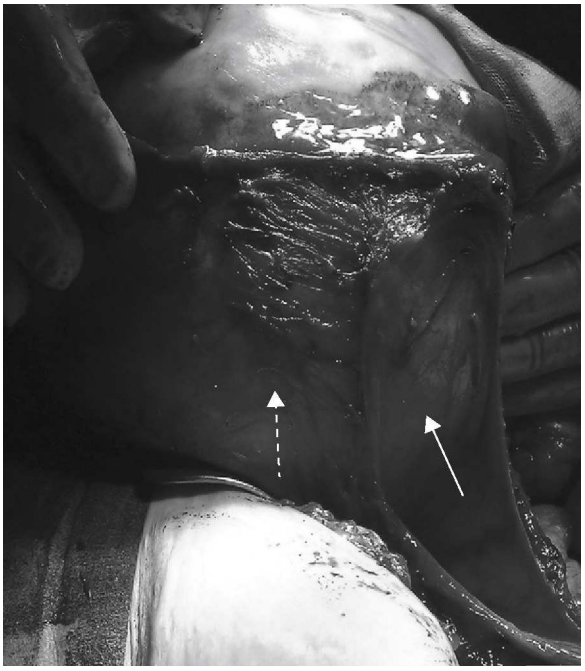

Fig. 2 – Cystic mass in the surgical field (dashed white arrow), with part of the adhered bladder wall (*en bloc* resection) and the open bladder (solid white arrow).

☆ Please cite this article as: Ruiz López M, Flores Sirvent L, Mera Velasco S, González Poveda I, Santoyo Santoyo J. Diagnóstico diferencial de masa quística abdominal: el quiste de uraco malignizado. Cir Esp. 2014;92:572–573.
☆☆ Data from this paper were presented as a poster at the Spanish National Congress of Coloproctology held in Seville, Spain in May 2012.

17 cm×15 cm with wall thickening and calcifications. It showed no continuity with the uterus, ovaries or bladder, although it did displace the latter (Fig. 1).

We decided on surgery and performed midline sub- and supra-umbilical laparotomy and exeresis of the mass with *en bloc* resection of the anterior wall and dome of the bladder (Fig. 2). The pathology report determined the mass to be a malignant transformation of an urachal cyst with mucous-secreting adenocarcinoma, infiltrating the bladder wall.

The patient was referred to the Urology Department, where a follow-up cystography was done 20 days after the procedure, which showed a filling defect on the upper right side with no contrast leak, and the bladder catheter was therefore removed without incident. Follow-up abdominal–pelvic CT and chest radiography showed no alterations. Last of all, the patient was sent for consultation with the Oncology Department to determine appropriate follow-up.

An urachal cyst is an anomaly that is a consequence of the obliteration of both ends of the urachus with persisting serous or mucinous liquid content in the middle. As they are usually asymptomatic, diagnosis is made when complications present.[1] An unusual form of presentation is malignant degeneration. The annual incidence of urachal carcinoma is 0.01% of all cancers in adults, while it represents between 0.17 and 0.34% of gallbladder cancers.[2–4] It is most frequent in males between the ages of 40 and 60.[1]

Histopathologically, 80%–90% are adenocarcinomas, fundamentally the mucinous type,[2] and they present as a palpable mass on the infraumbilical midline and hematuria. CT provides the definitive diagnosis, and a mass on the supravesical midline with calcifications inside is highly suggestive of carcinoma of the urachus.[1,5] The prognosis is poor due to the fact that the symptoms are late-onset because of the extraperitoneal location as well as the tendency toward early local invasion and distant metastasis.[2] In our case, the differential diagnoses that were considered were mesenteric cyst (which is more frequent in the fourth decade of life and presents as a compressible abdominal mass that can cause pain and distension)[6] and ovarian cystadenocarcinoma (affects post-menopausal women and would explain the patient's symptoms, in spite of a normal gynecological examination). The preoperative diagnosis was complicated and the definitive diagnosis was therefore provided by pathology.

What is important at the time of complete exeresis is that dissection should be initiated in the umbilical area in order to resect the entire possible trajectory.

In conclusion, malignant transformation of an urachal cyst is a rare condition that should be considered when an abdominal mass is found, especially considering its poor prognosis when the diagnosis is delayed.

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