Retroperitoneal lipomas: A case report

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KEYWORDS

Retroperitoneal masses;
Lipomas;
Ultrasonography.

Abstract Lipomas are mesenchymal tumors characterized by the abnormal proliferation of adipocytes. We describe a case of retroperitoneal lipomas in a patient with chronic lymphatic leukemia, who was referred to our sonography unit for a regular (6-month) follow-up scan. She had no abdominal symptoms of note. The sonographic examination revealed two well-defined, hyperechoic, oval-shaped masses: the first situated between the posterior wall of the stomach, the duodenum, and the head of the pancreas; the second lying craniomedial to the left kidney. Neither of the masses exhibited intralesional vascularization on color Doppler imaging. Retrospective examination of previous CT scans revealed that the lesions had been present for the past 4 years. Their slow growth was consistent with the suspicion of retroperitoneal lipomas, and this diagnosis was confirmed by magnetic resonance imaging. CT and MRI are the imaging studies of choice for diagnosing retroperitoneal lipomas, but ultrasonography is ideal for the follow-up of these patients because it is repeatable and relatively low in cost.

Sommario Il lipoma è un tumore ad origine mesenchimale, caratterizzato da un'abnorme proliferazione locale di cellule adipose. Presentiamo il caso di una paziente, affetta da leucemia linfatica cronica, giunta alla nostra osservazione per il follow-up semestrale, in assenza di sintomi addominali. All'esame ecografico abbiamo osservato la presenza di due formazioni iperecogene, a margini netti; una compresa tra la parete posteriore dello stomaco, duodeno e testa pancreaticca e una posta cranialmente e medialmente rispetto al rene sinistro. L'indagine color Doppler ha evidenziato l'assenza di segnali vascolari intralesionali. Retrospectivamente abbiamo analizzato due TC precedenti, eseguite nel corso dei precedenti 4 anni, che hanno confermato l'ipotesi di lipomi retroperitoneali, per la lenta crescita mostrata. Una successiva risonanza magnetica confermava la diagnosi. La TC e la RM rappresentano gli esami di scelta per porre la diagnosi di lipoma retroperitoneale, tuttavia l'ecografia è l'esame ideale nel follow-up dei pazienti, considerando l'economicità e la ripetibilità di questa metodica.

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Introduction

Lipomas are benign mesenchymal neoplasms composed of adipocytes. They present as roundish, well-encapsulated masses with regular walls that are visible on ultrasonography, CT, and magnetic resonance imaging. They show no enhancement after administration of contrast material. Lipomas occur in almost all parts of the body where fat normally exists. They can be found on the trunk, limbs, mediastinum, and pelvis. Retroperitoneal lipomas are rare, but their incidence is unknown. They have been described in a few case reports, and in rare cases the tumors are multiple or bilateral. They are characterized by slow growth and a tendency to exert pressure on the retroperitoneal or pelvic organs, displacing intestinal loops and the blood vessels adjacent to them. At the time of diagnosis, they are generally quite large. Occasionally, the presentation is acute with substantial abdominal pain caused by bleeding or infection.

Case report

In January 2012, the patient, a 45-year-old woman with chronic lymphatic leukemia, was seen in the outpatient US unit for her semiannual follow-up examination. She had no abdominal symptoms. The examination, which was performed with a convex array (2–6 MHz) transducer (Aloka Pro Sound Alpha 7 scanner), was negative for lymphadenopathy. However, two well-defined, hyperechoic, oval-shaped masses were seen. The first, measuring 6 cm, lay between the posterior wall of the stomach, the duodenum, and the head of the pancreas (Fig. 1); the second (3.8 cm) was craniomedial to the left kidney (Fig. 2). Neither of the masses exhibited intralesional vascularization on color Doppler imaging.

Review of two previous CT studies performed in September 2011 and November 2008 revealed that both masses had been present at least since 2008. The first was located in the gastropancreatic ligament and the second in the retroperitoneal subrenal perivascular space. Both appeared homogeneous and hypodense (−70 and −90 HU,

Figure 1 Retroperitoneal lipoma. B-mode sonography reveals a hyperechoic mass measuring 6 cm in length lying between the posterior wall of the stomach, duodenum, and pancreatic head.

retrospectively). The minimal growth that had occurred since 2008 was suggestive of benign lipomatous lesions, and this diagnosis was confirmed by magnetic resonance imaging.

This report is being published with the patient's consent.

Discussion

Lipomas are very common mesenchymal tumors composed of mature adipocytes. Their pathogenesis has not been completely defined.

These tumors are typically described as asymptomatic, slow-growing masses that are soft and mobile [1]. However, in the presence of an intra or retroperitoneal adipose tumor, the first step is to determine whether the lesion is benign or malignant [2], based initially on its radiological features [3]. Computed tomography and magnetic resonance imaging play fundamental roles in characterizing these lesions and defining their possible extension to adjacent structures.

Figure 2 Retroperitoneal lipoma. B-mode sonography reveals a well-defined hyperechoic mass (A). Axial CT scan after IV administration of iodinated contrast medium confirms the presence of a hypodense lesion with homogeneous content, well-defined margins, and no evidence of solid components (B).

To ensure proper treatment and follow-up, lipomas must be differentiated from liposarcomas, which account for 45% of all retroperitoneal malignancies. CT findings that are indicative of malignancy are rapid growth, thick intraleisional septa (>2 mm), and solid components [4]. Lipomas are characterized by slow growth, but in some cases histological examination is necessary to differentiate these lesions from well-differentiated liposarcoma. Magnetic resonance imaging is superior to CT for assessing the vascular aspects and adipose content of the lesion.

On ultrasound, lipomas appear as oval masses with well-defined regular margins and a hyperechoic echo structure. Thin fibrous septa may be present within the lesion, and the color Doppler examination shows no intra or perilesional vascularization. Another typical characteristic of lipomas is their mobility when pressure is exerted on the abdomen with the US transducer [5].

Conclusions

CT and MRI are the imaging studies of choice for diagnosing lipomas. Nonetheless, US is frequently the first-line method used to assess the abdomen, so familiarity with the sonographic features of these tumors can be useful. Sonography cannot only provide accurate depiction of the morphologic characteristics of the lesions, it can also be used to assess its mobility, its vascular features, and its growth over time. These features, and the fact that US is not associated with any ionizing radiation exposure, make this method ideal for the follow-up of patients with lipomas. Ultrasound findings alone are not sufficient, however, for making a definitive diagnosis. CT or MRI must

be performed, above all to reliably exclude the presence of liposarcoma.

Conflict of interest

The authors have no conflict of interest to declare.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.jus.2012.09.005>.

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