CASE REPORT

Retroperitoneal Intramuscular Haemangioma: Imaging Features

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ABSTRACT

Retroperitoneal intramuscular haemangiomas are quite rare. Interruption of the muscle layer by intramuscular cavernous haemangioma raised the suspicion of a soft tissue sarcoma. We discuss the radiological characteristics of a haemangioma compared to soft tissue sarcoma.

Key Words: Hemangioma; Muscles; Muscular diseases; Retroperitoneal neoplasms

INTRODUCTION

Haemangioma is one of the most common soft tissue tumours, accounting for 7% of all benign tumours. Soft tissue haemangiomas are more common in women; they may increase in size dramatically during pregnancy and may be superficial or deep. The deep tumours are usually intramuscular, of which the majority are located in the extremities and the head and neck regions. They are quite rare compared to their superficial capillary type counterparts and are estimated to represent only about 0.7% of all benign tumours. Retroperitoneal location of the intramuscular haemangiomas is quite a rare entity, with little mention in the literature. We present a case with a histopathologically proven retroperitoneal intramuscular haemangioma.

CASE REPORT

A 31-year-old woman first presented, at 33 weeks of gestation, with a 3-day history of right-sided abdominal pain. There were associated loin pain and vomiting, but without any urinary symptoms or fever. Physical examination revealed gravid uterus at 33 weeks of gestation, with no other palpable mass. Obstetrical findings were unremarkable. An ultrasound of the abdomen was performed and showed a fairly well-defined large soft tissue mass arising from the left psoas muscle extending posteriorly to involve the subcutaneous tissue (Figure 1a). Dilated and tortuous vessels were noted within the mass (Figure 1b).

Magnetic resonance (MR) imaging of the mass showed a large soft tissue mass, with low signal intensity on T1-weighted and high signal intensity on T2-weighted images, situated in the retroperitoneum and involving the left psoas and the left quadratus lumborum muscles, but no clear demarcation was noted (Figure 2). The mass showed marked enhancement post gadolinium in-
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Post-gadolinium magnetic resonance image showing marked enhancement of the retroperitoneal mass involving the left psoas and the left quadratus lumborum muscles with no clear demarcation noted.

Magnetic resonance angiography showing a hypervascular mass with dilated and tortuous vessels within. Feeding vessels came from the left lumbar arteries.

Intraoperative findings showed a vascular mass with 2 lobulations, deep and superficial. The superficial lobule was located within the paravertebral muscle, while the deep lobule extended anteriorly into the retroperitoneal area. A subtotal resection was performed in view of its close proximity to the neurovascular bundle of the left lower ribs. Histopathologically, the lesion was consistent with an intramuscular cavernous haemangioma with dilated thrombosed vessels.

Follow-up contrasted computed tomography (CT) of the residual tumour revealed a markedly enhancing lobulated lesion (Figure 5), which had remained unchanged for 2 years.

DISCUSSION

The differential diagnoses for retroperitoneal masses include: haemangioma, angiosarcoma, epithelioid haemangioendothelioma, Kaposi’s sarcoma, and leiomyosarcoma. It is quite difficult to differentiate between the benign and malignant lesions. In this particular case,
dots on T2-weighted images are reported to be much higher in haemangiomas than in the malignant soft tissue sarcoma. The central low intensity dots will fill up on contrasted images, suggesting that the lesion is originated from vessels. Haemangiomas are also noted to enhance markedly by gadolinium compared to soft tissue sarcomas. In our case, the lesion showed lobulation, septation, and central low intensity on T2-weighted images. Some of the central low intensity, however, did not enhance post contrast (due to thrombosed vessels).

Further descriptions of haemangiomas have been reported in literature with a view to distinguishing venous from cavernous and capillary types of haemangiomas; the venous types show interruptions in the muscle layer. Interruption of a muscle layer was also seen in this case though it was cavernous in type. As haemangiomas are highly vascular, MR angiography may help determine the feeding vessels. Prior to excision of a haemangioma, in most instances embolisation is deemed necessary to prevent heavy bleeding during resection. Despite the value of MR angiography, conventional angiography plays a bigger role in identifying the feeding vessels when embolisation is intended.

CT images of a haemangioma show a lobulated enhancing mass with bony involvement as depicted in this particular case, in which there was destruction of the left posterior 12th rib. Ultrasound may be of benefit in confirming the presence of a retroperitoneal mass. The flow in a haemangioma is usually too slow to be picked up by Doppler ultrasound, except in arteriovenous types. In this particular case however, Doppler sonography revealed a highly vascularised lesion.

CT images of a haemangioma show a lobulated enhancing mass with bony involvement as depicted in this particular case, in which there was destruction of the left posterior 12th rib. Ultrasound may be of benefit in confirming the presence of a retroperitoneal mass. Despite all the diagnostic radiological clues, when it comes to retroperitoneal masses, we can only come up with haemangioma as one of the radiological differential diagnoses. A definite diagnosis and further subtyping of the haemangioma can only be made histologically.

MR images of the lesion showed an ill-defined demarcation from the left psoas muscle raising the suspicion of a malignant lesion. A diagnosis of retroperitoneal intramuscular haemangioma can only be made radio logically, if there is a high index of suspicion. A few characteristics have been listed as favouring diagnosis of a haemangioma rather than a soft tissue sarcoma.

Both haemangioma and soft tissue sarcoma have low signal intensity on T1-weighted images. The frequency of lobulation, septation, and central low intensity

REFERENCES