MESENTERIC HEMANGIOMAS.
REPORT OF FOUR CASES

HEMANGIOMAS MESENTÉRICOS. PRESENTACIÓN DE CUATRO CASOS

SUMMARY

Hemangiomas are common benign vascular tumors, which are mainly found in the skin and in subcutaneous cellular tissue. Mesentery is considered a rare location for hemangiomas. This article reports four cases of mesenteric hemangioma. One of the cases had significant bleeding into the peritoneum.

RESUMEN

Los hemangiomas son tumores vasculares benignos comunes, encontrados principalmente en la piel y el tejido celular subcutáneo. Su localización en el mesenterio es muy poco frecuente. En este artículo se reportan cuatro casos de hemangiomas mesentéricos, y uno de ellos que se presentó con hemoperitoneo significativo.

Introduction

Primary hemangiomas of the mesentery are mesenchymal tumors derived from vascular tissue and are rare. This article describes four cases of patients with a histologically confirmed diagnosis of mesenteric hemangioma, which are manifested with unspecific abdominal symptoms.

Series of Cases

Case 1

This case corresponds to a 70-year old man, previously healthy. This patient visited the doctor due to abdominal pain after several months of evolution, with a feeling of a mass. After being evaluated by the general surgery group, an exploratory laparotomy was carried out, faced with the image study findings (figure 1). The hemangioma diagnosis is confirmed through the histopathological study.

Case 2

A 40 year old woman visited the doctor due to moderate pain in the left hypochondrium. The patient did not have personal important background information. The patient was taken to surgery (figure 2). The pathology service study confirmed the diagnosis of hemangioma.

Case 3

A 45 year old woman, without relevant background information, went to the doctor due to abdominal pain. The patient was taken to elective surgery, given the findings of the tomography (figures 3 and 4). The histological diagnosis confirmed hemangioma (figure 5).

Case 4

A 22 year old woman went to the doctor for two days due to epigastric abdominal pain, subjective fever and vomit. The patient did not have important personal background information. The patient was hemodynamically stable when entering the hospital, but suffered pain when her abdomen was felt through, without signs of peritoneal irritation. After the tomography of the abdomen was taken, a mass was reported in the mesentery and in the hemoperitoneum. For that reason, she was taken to surgery (figure 6). The histological diagnosis showed a hemangioma (figure 7), and cavernous hemangioma.

Discussion

Hemangiomas are frequent benign vascular hamartomatic tumors which are made up of the proliferation of endothelial cells and several vascular structures of variable size (1). They can be congenital lesions or they might appear after birth, and simultaneously grow with the patient.

Key words

Hemangioma
Mesentery
Tomography, X-Ray computed
Magnetic resonance imaging

Palabras clave

Hemangioma
Mesenterio
Tomografía computarizada por rayos X
Imagen por resonancia magnética

1 MD Radiologist, Hospital San Vicente de Paúl. Teacher of Radiology, Universidad de Antioquia, Medellín, Colombia.
2 MD Radiologist, Hospital San Vicente de Paúl Fundación. Teacher of Radiology, Universidad de Antioquia, Medellín, Colombia.
3 MD Radiologist, Instituto Neurológico de Antioquia, Medellín, Colombia.
4 MD, Radiology Intern, Universidad de Antioquia, Medellín, Colombia.
Mesenteric Hemangiomas. Presentation of four cases. Massaro M., Suárez, T., Huertas C., Cuervo C.

Figure 1. a) Axial contrasted abdominal CAT scan and b) coronary. These CAT scans show a lesion with soft tissue density (white arrow), located throughout the left parietocolic gutter, with an extension up to the pelvic cavity, which measures 16.5 cm (CC) x 9.4 cm (AP) x 7 cm (T), related to calcifications (black arrow, which corresponds to phleboliths), with a discrete enhancement in the middle of the contrast in the venous-portal phase.

Figure 2. a) Axial contrasted abdomen CAT scan and b) coronary. Shows a mass with soft tissue density, with calcifications inside, located in the gastric splenic space, with well-defined shapes. No significant enhancement in the middle of the contrast area (arrows).

Figure 3. a) Axial contrasted abdominal CAT Scan and b) coronary. It shows a soft tissue density mass in the mesentery of the pelvis (arrow), of 12.7 cm (T) x 8 cm (CC) x 2.5 cm (AP), with calcifications inside due to phleboliths, with close contact with the loops of the ileum, which are moved without traces of invasion.
They are usually benign, as up to 80% of the cases are isolated lesions (2,3). Most are located in the skin and the subcutaneous cellular tissue, although they can also be found in solid organs. They are extremely rare in the mesentery (4). When they are located in the peritoneal cavity, they might present themselves with massive hemoperitoneum. They can be unique or multiple, especially if they are associated with cutaneous hemangiomas (2).

Abrahamson and Shandling used a classification system that is divided in three categories: cavernous (most common type which affects the mesentery), capillary and mixed type (5,6). They can manifest itself as restricted or small lesions or with a diffused and expansive adverse effect. They usually lack well defined shapes. A thrombosis within sinusoids can lead to hyalinization and to calcifications (phlebolites), which highly suggest the diagnosis (3,7).

Hemangiomas in the mesentery are rare. There is no preference for either gender and they manifest themselves within a wide age range (from 2 months to 79 years of age, according to case studies). They usually present themselves around the third decade of life (4,8).

These are lesions that vary from well-defined tumors to infiltrative and amorphous ones, taking into account that, due to their benign nature, they do not invade adjacent structures nor are they associated with metastatic adverse effects, unless it is associated with a malign transformation, which is rare (3). They can emerge from any location in the mesentery, even when the most frequent lesion is in the middle of the small intestine. They manifest themselves as a palpable mass up to 60% of cases, with abdominal pain, in 55%, or with a feeling of fullness in 28% of cases. Less frequently, they can trigger hemoperitoneum (7), as presented in one of our cases. It can also be an incidental finding of an image study carried out due to any other cause. The treatment of primary hemangiomas of the mesentery is of a surgical nature, through laparoscopic or open surgery. The tumor can be confirmed only through histopathological studies, which are characterized by sinusoidal vascular spaces, which are also irregular, well defined and surrounded by normal tissue (9). No cases of recurrence have been reported after the complete resection of the lesion (8,10).
Imaging findings

Simple X-rays can show phleboliths, which are typical to hemangiomas. Barium studies can show a lesion which occupies space, with a mass effect on the loops, associated to phleboliths (9).

The ecographic study shows a solid lobulated mass of variable echogenicity, homogenous or heterogenous, while the Doppler examination shows waves with high systolic velocity and a low index of resistance. Dubois and collaborators (11) suggest that a hyper-vascular mass in the Doppler study associated with an arterial peak greater than 2 kHz highly suggests a hemangioma (sensitivity 84%, specificity: 98%, positive predictive value: 97%; negative predictive value: 82%). These ultrasound findings help differentiate hemangiomas from other benign lesions, and from malign tumors, which are predominantly hyper-vascular in the periphery.

Angiographic studies can be useful to define the tumor location and irrigation (7). A mass with soft tissue density is evidenced in the computerized axial tomography. The shape of this mass is not well-defined, and, in contrast to liver hemangiomas, which show a centripetal globular enhancement which starts from early phases, with a persistent and late enhancement with well-defined shapes, primary mesenteric

Figure 6. (a and b) Contrasted abdominal axial CAT Scan (a and b) and coronary (c and d). It shows a mass of 96 x 47 x 42 mm with soft tissue density (white arrow), with well-defined shapes, in contact with the minor stomach curve, the pancreas and the lower edge of the left hepatic lobe, without calcifications, with a small enhancement in the middle of the contrast area in the portal venous phase, which corresponds to mesentery primary hemangioma. In the pelvis (b and d), liquid free of high attenuation, due to hemoperitoneum (black arrow), secondary to the bleeding of the hemangioma.

Figure 7. Tissue with changes due to extensive hemorrhagic necrosis, with proliferation of endothelial cells which form dilated vascular channels, some wide and others narrower which resemble capillaries. There is no mitosis or cellular atypia. There are no histological criteria of malignancy. These findings suggest mixed hemangioma with capillary and cavernous areas.
hemangiomas are not well defined in terms of shape and to not show any pattern of arterial enhancement; they are typically enhanced in the portal phase, and during late phases they do not show significant contrast retention. Moreover, calcification focus points can be found in the inner part of the mass, which suggest phleboliths, which favors the diagnosis (6).

In the tomography, in sequences with T1 information, a low to medium intensity mass towards the muscle, as well as a high intensity signal in sequences of T2 information can be seen. It is possible to demonstrate heterogeneity through fibrous walls, vascular structures, hemorrhages or calcifications (1,9). Even though case 3 does not show the behavior which is typical to high signal intensity in sequences with T2 information, this is probably due to hyalinization of the lesion.

Despite advanced image study techniques, it is usually not possible to differentiate mesentery hemangiomas of other fibrous lesions from other mesenchymal tumors or any other etiology. For this reason, pre-operative differentiation of these hematomas is difficult.

References


Address

Catalina Cuervo
Departamento de Radiologia
Universidad de Antioquia
Medellín, Colombia
catacuervol111@hotmail.com

Received for Evaluation: November 25 of 2011
Approved for Publication: March 13 of 2012