

## Case Report

# GIANT MESENTERIC HEMANGIOMA: EFFECTIVE DIAGNOSIS AND FOLLOW-UP IN CONSERVATIVE TREATMENT

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## ABSTRACT

Hemangiomas are frequent benign vascular tumors originating from the proliferation of endothelial cells and several vascular structures variable in size. In rare cases hemangiomas affect the gastrointestinal system (only 0.05% of intestinal tumors) and mesentery, which is considered an even rarer location. In our research, we present a rare case of mesenteric hemangioma in a 3-month-old female infant, presenting acute symptomatic anemia. The mesenteric hemangioma was diagnosed using ultrasonography and contrast enhanced CT, showing an impressive response to propranolol, which was confirmed with US and blood laboratory tests. The patient did not need any surgical treatment.

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## 1. Introduction

Hemangiomas are frequent benign vascular tumors originating from the proliferation of endothelial cells and several vascular structures variable in size<sup>1</sup>. These lesions can vary from well-defined to infiltrative tumors, but they do not invade adjacent structures unless associated with a malign transformation, which is infrequent<sup>2</sup>.

They can be congenital or acquired and may occur in several organs, most frequently in skin and mucosa, liver and central nervous system<sup>3</sup>.

In rare cases hemangiomas affect the gastrointestinal system, considering they account for only 0.05% of the intestinal tumors<sup>4</sup>; mesentery is considered an even rarer location for hemangiomas<sup>3,5</sup>.

Hemangiomas are usually asymptomatic, and they could be found accidentally, but they can cause blood dripping or hemorrhages as a first symptom. Successively, mesenteric hemangiomas might cause hemoperitoneum or intraluminal bleeding, depending on size and intestinal wall involvement. In our research, we report one case of large mesenteric hemangioma associated with a hepatic one, in a 3-month-old infant who presented pallor and poor food intake.

## 2. Case presentation

We report a case of a full-term 3-month-old female infant taken to the Pediatric Emergency Department due to pallor, poor food intake and poor growth over the previous weeks.

The physical examination revealed pallor, drowsiness and poor responsiveness by the infant, as well as the presence of three cutaneous hemangiomas located on the scalp leather, in the left leg and in the ipsilateral gluteal region. The infant's parents also reported that the patient had shown melena during the past week.

The patient underwent laboratory blood tests, showing mild-severe normochromic normocytic anemia (hemoglobin (Hb): 7.5 mg/dl) and thrombocytosis (platelets: 682000/mm<sup>3</sup>). The patient received a blood transfusion for the normochromic normocytic anemia resolution.

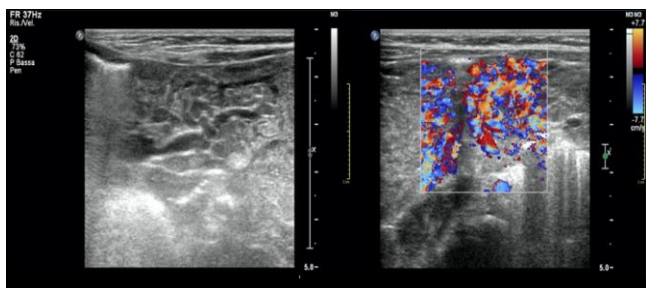
We performed an abdominal ultrasonography (US) that highlighted a pathologic thickness of the mesentery in the middle and lower abdominal quadrants, with a strongly increased vascular signal to the color-Doppler study (Figure 1), associated to a wall thickness of the small intestine and colic loops.

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The US also showed a 4 cm lesion in the VII hepatic segment, confirming the ultrasonographic features. In addition, the US found portal trunk ectasia (maximum diameter of 8 mm) (Figure 2).



**Figure 1.** Abdominal US revealing a pathologic thickness of the mesentery in the middle and lower abdominal quadrants with a strongly increased vascular signal to the color-Doppler study (Figure on the right).



**Figure 2.** Abdominal US revealing a 4 cm lesion in the VII hepatic segment (2A) and portal trunk ectasia (maximum diameter of 8 mm) (2B).

Based on these findings, urgent contrast-enhanced computed tomography (CT) was performed, confirming a pathologic thickness of the mesentery, which showed a marked diffuse contrast enhancement, diagnosed as a vast mesenteric hemangioma and associated to pathologic wall thickness of the small intestine and colic loops. Furthermore, the CT confirmed the portal trunk ectasia and the 4 cm lesion in the VII hepatic segment, diagnosed as hepatic globular hemangioma (Figure 3).

The day after the CT scan, the patient was transferred to the Pediatric Onco-hematology Unit and a tolerability test to propranolol was performed. The patient was found to be tolerant to propranolol and therefore started on an oral therapy, with a gradually increased dosage at 3 mg/kg/day confirming a good tolerance.

Due to the risk of uncontrollable bleeding, no biopsy or surgery was performed.

A week after starting propranolol, the patient underwent a follow-up abdominal US that showed a reduction of the hepatic lesion and no modifications of the ultrasonographic pattern of mesentery and intestinal loops.

The infant was discharged and administered the same dosage of propranolol at home, with follow-ups at 1-3-6 months. Each follow-up appointment would have included blood sample tests and abdominal US. After three months, blood sample test showed increased hemoglobin (Hb: 9.7 mg/dl) and reduced thrombocytosis (platelets: 570000/mm<sup>3</sup>).

The US showed that the hepatic lesion was completely healed and there was reduced mesentery and intestinal loops involvement.

The US performed after 6 months showed only the residual thickness and hyperechoic appearance of the mesentery root, without any hepatic and intestinal loops involvement and normal size of the portal trunk.

The blood sample test after 6 months showed no signs of anemia (Hb: 12.9 mg/dl) and a stabilized mild thrombocytosis.



**Figure 3.** Contrast-enhanced CT confirming a vast mesenteric hemangioma associated to pathologic wall thickness of the small intestine and colic loops (A) and portal trunk ectasia and the VII hepatic segment hemangioma (B).

#### 4. Discussion

Mesenteric hemangiomas are extremely infrequent and can emerge from any part of the mesentery, even if the most frequent location is the central part of the small intestine<sup>5</sup>. Notably, they may originate either from the mesentery and the bowel wall or the mesentery alone.

Hemangiomas have no gender prevalence and manifest within a wide age range (from 2 months to 79 years, according to case studies)<sup>5-10</sup>.

The clinical presentation can vary based on size, location and intestinal wall involvement. Usually, larger mesenteric hemangiomas with bowel wall involvement may result in hemoperitoneum or intraluminal bleeding, with hematemesis or melena.

In our case study, there was evidence of melena with consequent pallor and normochromic normocytic anemia caused by chronic blood dripping.

US is the first-line imaging exam for the diagnosis of hemangiomas, especially in pediatric patients due to low invasiveness. We carried out the first US as a diagnostic investigation of anemia, before knowing the pathology from which the infant was affected.

The ultrasound results suggested a large mesenteric hemangioma, especially given the presence of the three skin hemangiomas observed during the first physical examination.

Based on these findings, urgent contrast-enhanced CT was performed, confirming the diagnosis of large mesenteric hemangioma, pathologic small intestine and colic wall thickness and a hepatic hemangioma.

Laparoscopy and histology are possibly used when other techniques fail in reaching the diagnosis<sup>6,11-12</sup>, however, we decided to not perform a biopsy or resection because we were confident with our findings.

We started therapy with propranolol (3 mg/kg/day) and after 6 months we found a significant improvement of clinical features, blood laboratory tests and ultrasonographic findings, further confirming our diagnosis of mesenteric hemangioma.

In conclusion, we presented a rare case of mesenteric hemangioma with atypical presentation and impressive response to propranolol, confirmed with US and blood laboratory tests. The patient continued therapy with propranolol for an entire year, at which point it was interrupted. The patient is currently undergoing additional follow-ups, in good clinical conditions, with regular blood laboratory tests and no ultrasonographic alterations.

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