

## Case Report

# Intestinal occlusion due to mixed hemangioma in greater omentum

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### ABSTRACT

Omental tumors are most commonly found in the pediatric population, with hemangiomas being one of the rarest types. These tumors can occur in any organ, with a higher prevalence in the skin and subcutaneous tissue. Although they are extremely rare, omental tumors, including hemangiomas, often involve the greater omentum. We present the case of a 70-year-old male patient that presented to our hospital with abdominal pain, distension, and inability to pass stool. After histopathological analysis we confirmed a mixed cavernous as well as capillary hemangioma of the omentum.

**Keywords:** Omental tumors, Hemangioma, Intestinal occlusion, Surgical management, Histopathology

## INTRODUCTION

Omental tumors are most commonly found in the pediatric population, with leiomyoma, leiomyosarcoma, fibroma, and fibrosarcoma being the most common primary tumors. Hemangiomas are among the rarest. We present a case of a 70-year-old male patient with intestinal occlusion caused by a mixed type hemangioma in the greater omentum.

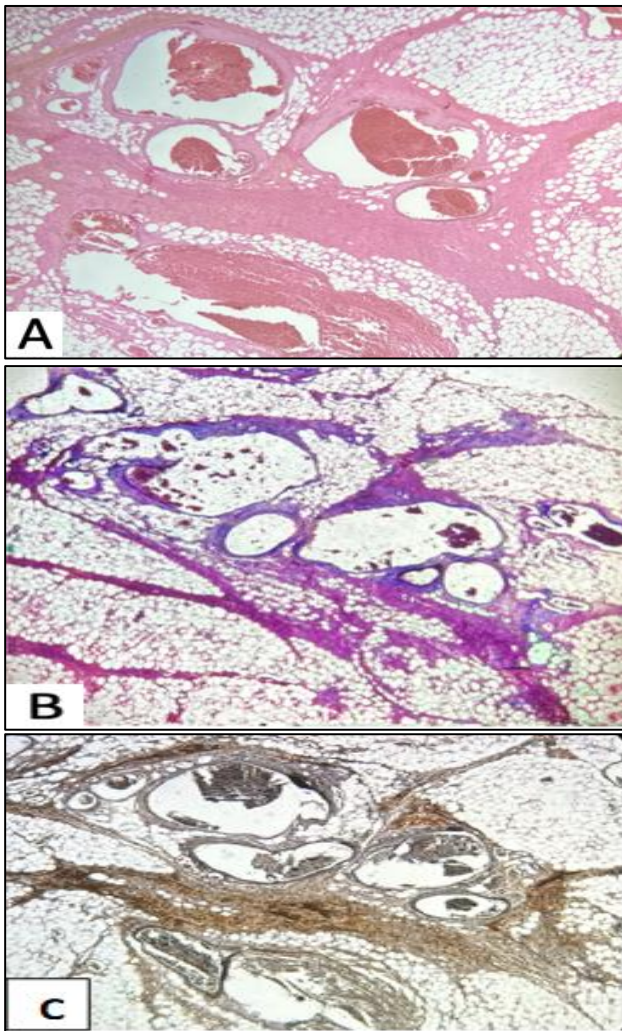
## CASE REPORT

A 70-year-old male with no significant medical history presented to the emergency department with diffuse colicky abdominal pain, limited mobility, abdominal distension, and 4 days of inability to pass stool. On physical examination, there was generalized distended and tender abdomen with muscular rigidity. Laboratory tests revealed leukocytes 8 cells/mm, neutrophils 84%, hemoglobin 16 g/dL, hematocrit 49%, platelets 354,000, INR 1.1sec, creatinine 3.96 mg/dL, albumin 3.8 g/dL, CRP 48 mg/dL, arterial blood gas pH 7.39, PCO<sub>2</sub> 34 mmHg, PO<sub>2</sub> 68 mmHg, HCO<sub>3</sub> 20 mmHg, BE -4.4 mmol/L, SO<sub>2</sub> 92%, and lactate 1.4 mmol/L. Abdominal

X-ray showed dilated small bowel loops with air-fluid levels, leading to a diagnosis of intestinal occlusion requiring surgical management. The patient underwent exploratory laparotomy, intestinal resection, terminal ileostomy formation, and side-to-side mechanical enteroenterostomy. Intraoperatively, adhesions were found on the greater omentum, along with a tumor originating from the greater omentum. An internal hernia site was identified, causing a ten cm segment of intestinal necrosis in the small intestine, one hundred and sixty cm distal to the angle of Treitz. The patient had a complicated postoperative course, developing healthcare-associated pneumonia and requiring mechanical ventilation and vasopressor support in the intensive care unit. After five days, the patient was successfully extubated without the need for vasopressor support and was discharged from the ICU. With the use of antisecretory agents, control of the ileostomy output was achieved, and the patient was discharged thirty-four days after admission. The histopathology report revealed a mixed cavernous and capillary hemangioma of the omentum, along with ischemic enteritis, acute ulcerative enteritis, and chronic organized fibrinopurulent peritonitis.



**Figure 1: Irregular tissue specimen measuring 9x8x5 cm, it is light yellow with dark brown areas, lobulated, and has an adipose appearance.**



**Figure 2 (A-C): Vascular growths, congested, dilated, and with thin walls that give cavernous appearance. Masson's trichrome staining that allows visualization of collagen fibers, distinguishing blood vessels. Reticulin staining that strengthens walls of blood vessels.**

## DISCUSSION

The omentum is a visceral adipose tissue with a double layer of peritoneum that extends from the stomach and proximal part of the duodenum to various abdominal organs, covering an area of 1500 cm<sup>2</sup>. It is derived from mesothelial cells and is divided into the greater and lesser omentum.<sup>1</sup>

Its function varies from angiogenic, fibrotic, stem cell, and immune activities, which together promote vascularization, accelerate wound healing, and limit infection.<sup>1</sup> These types of activities make the omentum susceptible to pathologies such as tumors originating from other sites, such as the gastrointestinal and ovarian regions.<sup>2</sup>

Although these tumors are extremely rare, most omental tumors involve the greater omentum and have a diverse pathological spectrum. Reported tumors include leiomyosarcoma, fibrosarcoma, hemangiopericytoma, spindle cell sarcoma, liposarcoma, leiomyoma, lipoma, desmoid tumor, fibroma, and mesothelioma.<sup>3</sup> Among them, one of the rarest types are hemangiomas.

Hemangiomas are benign vascular tumors that originate from a proliferation of endothelial cells. They are often present in childhood and gradually evolve during the first decade of life.<sup>4</sup> Although their classification is being updated, it is still debated whether it could be applicable and functional for all medical and surgical specialties and for each organ or tissue.<sup>5</sup>

These tumors can be found in any organ, with a higher prevalence in the skin and subcutaneous tissue.<sup>4</sup> Vascular tumors in the gastrointestinal tract account for less than 2% of neoplasms and 2.8% of all intestinal neoplasms, making them a very rare abnormality.<sup>6,7</sup>

Our literature review from 1960 to 2022 showed 19 cases of omental hemangioma, with a predominance of cavernous hemangioma in 8 cases followed by capillary hemangioma in 4 cases. Most cases were located in the greater omentum, and only 2 cases were multifocal.<sup>8</sup>

## CONCLUSION

Cavernous and capillary hemangiomas of the omentum are rare tumor presentations, and despite the diagnostic tools available in the laboratory and imaging, they can be difficult to diagnose preoperatively. In the differential diagnosis, consideration should be given to tumors located in the mesentery or omentum. Confirmatory diagnosis is made through histopathological study of the resected specimen.

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