

Giant Primary Mesenteric Tumors in a Tertiary Healthcare Facility in Port Harcourt: A Case Series

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ABSTRACT

Background: Primary mesenteric tumors are rare. This study described as case series the clinical presentations and outcomes of related cases of giant primary mesenteric tumors seen at the Surgery Department of the Rivers State University Teaching Hospital between July 2025 and June 2026.

Materials and Methods: The clinical case notes of all patients with primary mesenteric tumors were summarized for the study.

Case Presentations: **Case 1:** A 56-year-old man had a central intra-abdominal mass measuring approximately 20 × 18 cm, and abdominal CT scan revealed its mesentery origin. He had complete tumor resection and the histopathological findings were spindle-cell proliferation arranged in fascicles. **Case 2:** A 53-year-old man had a year history of abdominal swelling and progressively worsening abdominal pain of two-month duration. CT scan of the abdomen revealed a mesenteric soft tissue mass measuring approximately 11 × 10 × 9 cm. He had complete excision of the tumor and histopathological examination revealed spindle-cell proliferation arranged in intersecting fascicles with minimal nuclear atypia and low mitotic activity. **Case 3:** A 53 year old female had abdominal pain and swelling of 4 months duration. Abdominal CT scan revealed a huge minimally enhancing mixed density mass measuring 19.1cm × 16.3cm, and there was hepatomegaly and splenomegaly. She had tumour excision, with splenectomy, partial gastrectomy and reconstruction, and the histopathology report revealed small round blue cell tumor.

Conclusion: Three cases of mesenteric tumors were presented, out of which one had feature of local invasiveness and distant metastasis. The short-term surgical outcomes were favorable, except for the case 3 (malignant) which ended in mortality.

Keywords

Case series, Giant mesenteric tumors, Primary, Port Harcourt, Nigeria.

Introduction

Mesenteric tumors are abnormal growth occurring in tissue folds attached to the intestine called the mesentery, and the mesentery

is that double layered fold of tissue attached to the posterior part of the intestine that serves to convey blood vessels, nerves and lymphatics to and from the bowel. While some tumors metastasize to the mesentery from other organs (and called secondary tumors), primary mesenteric tumors originate from essential attachments of the gut and therefore heterogeneous, comprising of connective, lymphatic, adipose, or peritoneal tissues [1]. The consistency

may be solid, cystic or mixed, and it could be benign [2], locally invasive or malignant in behavior [3]. The historical account of these tumors has not been documented with certainty as one researcher traced its first description to the early twentieth century [4], while another posited that it was first reported by an Italian anatomist Benevieni in 1507 and the first surgical resection was carried out in the year 1800 [5].

Primary mesenteric tumors are rare with incidence reported to be 1/100,000 population in the United States of America [1,6] and about a third of these tumors are malignant - predominantly sarcomas, lymphomas, and neuroendocrine tumors (NETs). Variations exist in age distribution of these tumors as it has been reported in children and adults [7,8], however, the malignant varieties are found in the 5th and 6th decades of life [9,10]. These tumors have been reported globally and in African countries [11,12], including Nigeria [13] and in the City of Port Harcourt [14]. Majority, especially small tumors may have no symptom and hence incidental presentation. Some may grow to large sizes with compression symptoms and a few others may present as emergencies [8].

Diagnosis is often made using evidences from clinical evaluation, imaging studies, and tissue histopathologic studies derived from needle percutaneous biopsy, surgical biopsy, or surgical excision biopsies [1,15]. Multidisciplinary care management approach is ideal, and therapeutic options vary depending on the nature of the tumor, usually surgical resection and medical theapies including targeted therapy [1]. Although small mesenteric tumors may be discovered incidentally [1], the impact of giant tumors and its care on patients is often far-reaching - especially for patients with significant co-morbidities, and very challenging for the healthcare team. Primary mesenteric tumors are very rare, and occurrence of giant malignant varieties in the same center within a year raises more concern, warranting reporting. This study therefore described a series of the presentations and short-term outcome of related cases of giant primary mesenteric tumors seen at the Surgery Department of the Rivers State University Teaching Hospital between July 2025 and June 2026.

Case Presentations

Table 1: First Five Cases with the clinical features and outcome.

Cases	Age (Years)	Sex	Presentation Duration of Symptoms (Months) & Size of Mass	Tumor Type/Benign or Malignant	Treatment	Outcome / Follow Up
1	56	Male	Abdominal swelling, abdominal discomfort; 3 months	Mesenteric mass measured 22 × 18 × 15 cm (encapsulated mass)	Elective exploratory laparotomy and tumor resection	Recovered and was placed on medical treatment
2	53	Male	a year history of Abdominal swelling x 1 year, worsening abdominal pain x 2 months	Mesenteric mass measured 11 × 10 × 9 cm (well-defined)	Elective exploratory laparotomy and tumor resection	Recovered and was placed on medical treatment
3	53	Female	Abdominal swelling, abdominal pain; 4 months	Mixed density intra-abdominal mass measuring 19.1 cm × 16.3 cm (metastatic liver deposits)	Had elective exploratory laparotomy, tumor resection, partial gastric resection and reconstruction	Recovered and was discharged home in preparation for medical therapy. But had recurrent anemia and subsequently mortality.

Case 1

A 56-year-old man admitted through the surgical out-patient clinic in year 2025 with complaints of progressive abdominal swelling of three months’ duration. There was associated intermittent dull abdominal discomfort but no history of vomiting, constipation, abdominal trauma, fever, weight loss, night sweats, or gastrointestinal bleeding. He was hemodynamically stable, and significant findings on physical examination were generalized abdominal distension and a centrally located intra-abdominal mass, that was firm, non-tender, and measured approximately 20 × 18 cm in widest transverse and vertical diameter. The abdominal ultrasound scan revealed a large heterogeneous intra-abdominal mass. Contrast-enhanced computed tomography (CT) scan of the abdomen revealed a well-defined heterogeneous soft tissue mass arising from the mesentery with displacement of adjacent bowel loops but without obvious invasion of major vascular structures. There was no evidence of distant metastasis or significant lymphadenopathy. The radiological impression was that of a mesenteric tumor. Following multidisciplinary review and optimization, the patient underwent elective exploratory laparotomy. Intraoperative findings were: a large encapsulated mesenteric mass measuring approximately 22 × 18 × 15 cm, adjacent bowel loops were displaced but not infiltrated. There was attachment to the stomach, splenic hilum and the greater omentum, but no liver metastases and no peritoneal seedlings. Complete excision of the mesenteric mass was achieved. Bowel resection was not required as bowel vascularity remained intact following tumor removal. Histopathological findings were spindle-cell proliferation arranged in fascicles with variable collagen deposition, and surgical margins were free of tumor. He had full recovery with uneventful post-operative period.

Case 2

A 53-year-old man admitted through the surgical outpatient clinic with a year history of abdominal swelling and progressively worsening abdominal pain of two-month duration. There was no other significant findings in the history. Physical findings revealed a stable patient. Significant examination findings were soft distension abdomen, a firm, non-tender intra-abdominal mass measuring approximately 12 × 10 cm was palpable around the periumbilical region. There was no guarding, tenderness, ascites,

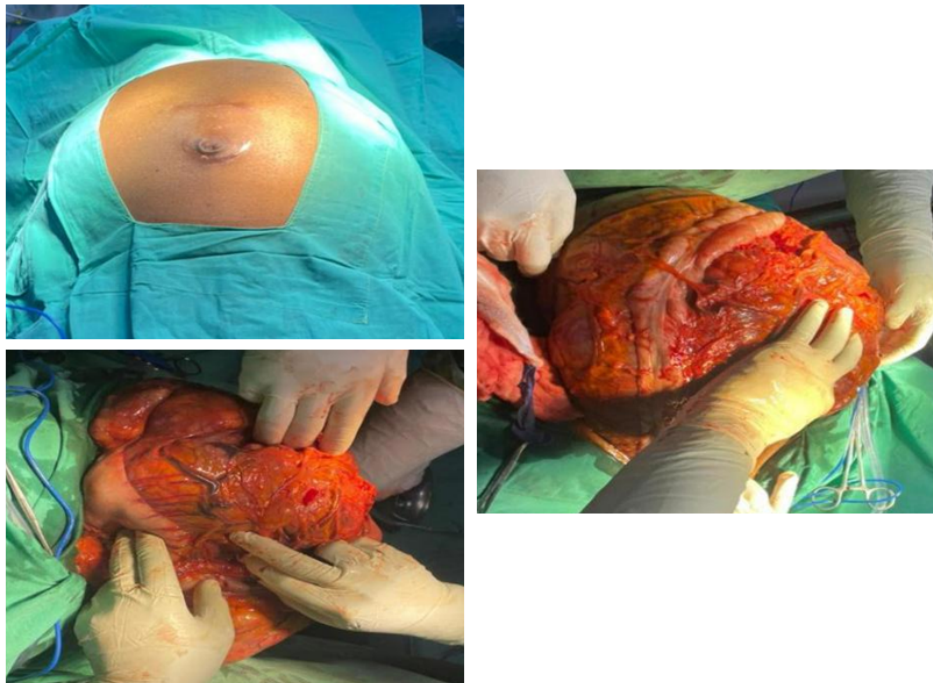


Figure 1: Operating Room Clinical Photograph of Case 1.



Figure 2: Operating Room Clinical Photograph of Case 2.

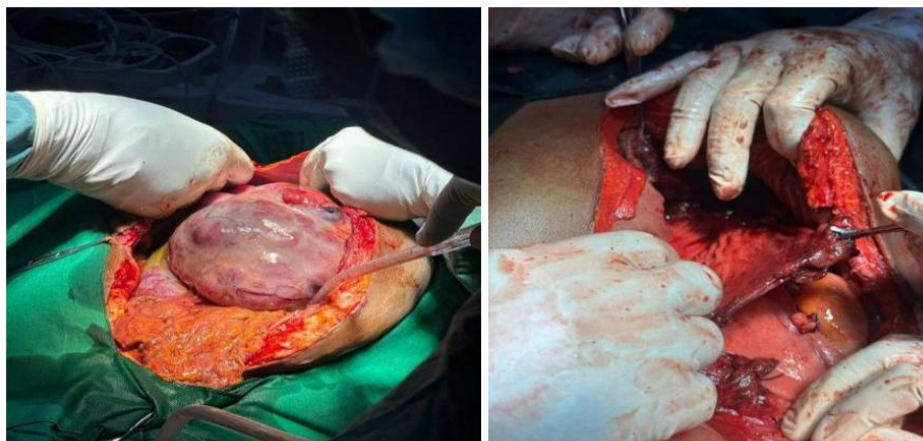


Figure 3: Operating Room Clinical Photograph of Case 3.

or hepatosplenomegaly. Systemic examination was otherwise unremarkable. Abdominal ultrasonography demonstrated a heterogeneous soft tissue mass within the mesentery. Contrast-enhanced computed tomography scan of the abdomen revealed a well-defined heterogeneous mesenteric soft tissue mass measuring approximately 11 × 10 × 9 cm. There was displacement of bowel loops and no lymphadenopathy, no hepatic lesions, and no ascites. The radiological diagnosis was a mesenteric tumor. The patient underwent elective exploratory laparotomy and had complete tumor excision with preservation of the bowel and mesenteric blood supply. The histopathological examination revealed microscopic examination demonstrated spindle-cell proliferation arranged in intersecting fascicles with minimal nuclear atypia and low mitotic activity. The postoperative course was unremarkable and patient was discharged on postoperative day 15 in stable condition. Follow-up four weeks after surgery, revealed complete resolution of abdominal pain. The abdominal wound had healed satisfactorily, and there was no clinical evidence of recurrence.

Case 3

A 53 year old female civil servant admitted through the Emergency Department in year 2026 with complaints of abdominal swelling of 4 months duration. There was associated occasional abdominal pain, anorexia, and weight loss, but no vomiting and no change in bowel habit. Additional significant information in the history was that she was a known hypertensive with hypertensive heart disease. Significant examination findings were a chronically ill patient who was pale with huge abdominal mass and nodular hepatomegaly. Abdominal computerized tomography scan report showed a huge minimally enhancing mixed density mass measuring 19.1cm × 16.3cm. The mass had predominantly solid component with necrotic center, displacement of the stomach, with associated splenic (14.2cm) and hepatic (19.4cm) enlargement. She had anaemia which was corrected with blood transfusions. She was optimized and offered elective exploratory laparotomy. Intra-operative findings were nodular metastatic deposits in the liver, a huge intrabdominal tumour abutting on the undersurface of the liver, adherent to the stomach and the intra-abdominal oesophagus. She had tumour excision with splenectomy, partial gastrectomy and reconstruction. Post-operatively she was admitted into the intensive care unit, and thereafter recovered and was discharged for out-patient follow up. The histopathology report revealed small round blue cell tumor. However, patient was readmitted with recurrent severe anaemia and died before medical therapy could be started.

Discussion

Primary mesenteric tumors are known as extra - gastrointestinal stromal tumors (E-GIST) since they arise from the mesentery or the omentum [16-18] and both E-GISTs and GISTs are subsets of soft tissue sarcomas. In this report, two cases originated from the mesentery, and one from the greater omentum. Mesenteric tumors are considered giant or very large when the size exceeds 10cm [19-21]. All three patients were in the 5th decade. The age in this report is higher than the 22 years reported in a study in Abuja Nigeria for epithelioid haemangio-endothelioma of the mesentery [22]. However, it is similar to the 56 years reported for malignant

primary mesenteric tumor in Zaria Nigeria [23]. A third of these patients are known to be malignant especially when it occurs in the 5th and 6th decades [9,10], as seen in the case 3 of this report that shows obvious tumor invasiveness and metastasis. There were 2 males and 1 female. This aligns with the mixed gender distribution reported in previous studies [22,23].

The duration of illness varied from 3 months to 1 year in this series. This range agrees with previous reports in Nigeria [11,13,22]. However, it is shorter than the 2-year duration of abdominal pain reported from Zaria Nigeria [23]. The period of presentation is often a function of the severity of abdominal pain and socioeconomic factors hindering early presentation in income-limited setting like ours. Two patients presented through the surgical out-patient clinic while one presented to the Emergency Department, and the main presenting symptoms were abdominal swelling, abdominal pain, and abdominal mass. The sizes of all the tumors were more than 10 cm, hence described as giant in this series.

Two of the patients could not do immuno-histochemistry due to “high cost”. However, the histologic descriptions of two of the cases showed spindle-cell proliferation arranged in fascicles with variable collagen deposition, and spindle-cell proliferation arranged in intersecting fascicles with minimal nuclear atypia and low mitotic activity. The most common tumors associated with this histologic pattern include: mesenteric fibromatosis (Desmoid Tumor), gastrointestinal stromal tumor (GIST), inflammatory myofibroblastic tumor (IMT), smooth muscle tumors (Leiomyoma/Leiomyosarcoma), and neural tumors (Schwannoma). Since this spindle-cell proliferation arranged in fascicles is associated with multiple tumor types, immunohistochemistry (IHC) staining is often needed to determine the definitive diagnosis. The small round blue cell tumor seen in case 3 is known to be highly malignant, undifferentiated cancers [24] and the patient had features of invasiveness and metastasis. A similar occurrence was reported from Lagos Nigeria in a 26 year old male in which the tumor ran an aggressive course of 9 months with unfavorable outcome [25]. Small round blue cell tumor commonly occur among children as reported in a compilation of cases in Ile-Ife Nigeria, [26], however, in this case series it occurred in a patient if 53 years old.

Multidisciplinary team care is recommended for these tumors, and the treatment is largely dependent on the type of tumor, the size of tumor, and the invasiveness suggesting malignancy. Surgical removal is the primary treatment approach, and in malignant tumors chemotherapy/targeted therapy, radiation, or hormone therapy are added. The scope of surgical resection is individualized. All the patients in this series had successful tumor resection, and the patient in case 3 had a rather more extensive resectional surgery. The post-operative period was unremarkable in two of the patients (case 1 and 2), but the third case (in the patient with metastasis) was marked by recurrent anemia. The short-term outcome was favorable as all the patients were still alive at the time of reporting - two months to eleven months after surgery, except for the third case (malignant case) who had recurrent post operative anemia and died before medical therapy could be started.

Conclusion

Three cases of rare mesenteric tumors among patients in their middle age were presented, out of which one had features of local invasiveness and distant metastasis. There were financial challenges associated with payment for immunohistochemistry, however, the short-term surgical outcome were favorable.

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