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*RESEARCH ARTICLE*

# LIPOSARCOMA OF THE COLON PRESENTING AS AN ENDOLUMINAL MASS

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*Abstract*

**Background:**Liposarcoma is one of the most common soft tissue sarcomas of adult life, usually occurring in the retroperitoneum and the extremities. Primary liposarcoma of the colon is very rare. The optimal treatment has not been established due to the small number of cases reported. We report a case of primary liposarcoma of the colon presenting as an intraluminal lesion.

**Case presentation:** A 47-year-old female presented with abdominal pain, loose stools and hematochezia associated with fatigue for 2 weeks duration. An ultrasonogram detected a heteroechoic lesion of size 3.8*4.4 cm in the epigastric region related to the bowel. A contrast enhanced computed tomography identified a well-defined predominantly fat attenuating lesion associated with transverse colon. The patient underwent surgical resection of the lesion with end-to-end colo-colic anastomosis. Pathologic examination was consistent with well differentiated liposarcoma of the colon.



## Introduction:-

Liposarcoma is one of the most common soft tissue sarcomas of adult life. Histological classification includes five main subtypes: well-differentiated, myxoid, round cell, pleomorphic and dedifferentiated [1,2]. Liposarcoma usually occurs in deep soft tissues of extremities and retro peritoneum. A presentation primarily involving the gastrointestinal tract (GI) is unusual and liposarcoma of the colon is extremely rare. To our knowledge, only 9 cases have been reported to date [3-10]. We report a case of a primary liposarcoma of the colon presenting as an intraluminal mass in the transverse colon.

**Case presentation**

A 47-year-old female, in good general conditions, presented with a 2-week history of episodic abdominal pain, loose stools and hematochezia associated with fatigue. Her past medical history and family history were unremarkable. Physical examination revealed a palpable, non-tender mass in the epigastric region of the abdomen. Laboratory tests on admission were within normal values, except for a hemoglobin of 10gm%, including tumor markers carcinoembryonic antigen (CEA), CA 125, CA 19.9 and CA 72.4. As a first approach, an abdominal ultrasonography (US) was performed, showing a heteroechoic ovoid mass in the epigastric region related to the bowel (3.8*4.4cm). A computed tomography (CT) scan showed a well-defined predominantly fat attenuating lesion associated with transverse colon. Patient was taken up for laparotomy in view of hematochezia associated with low hemoglobin and fatigue.

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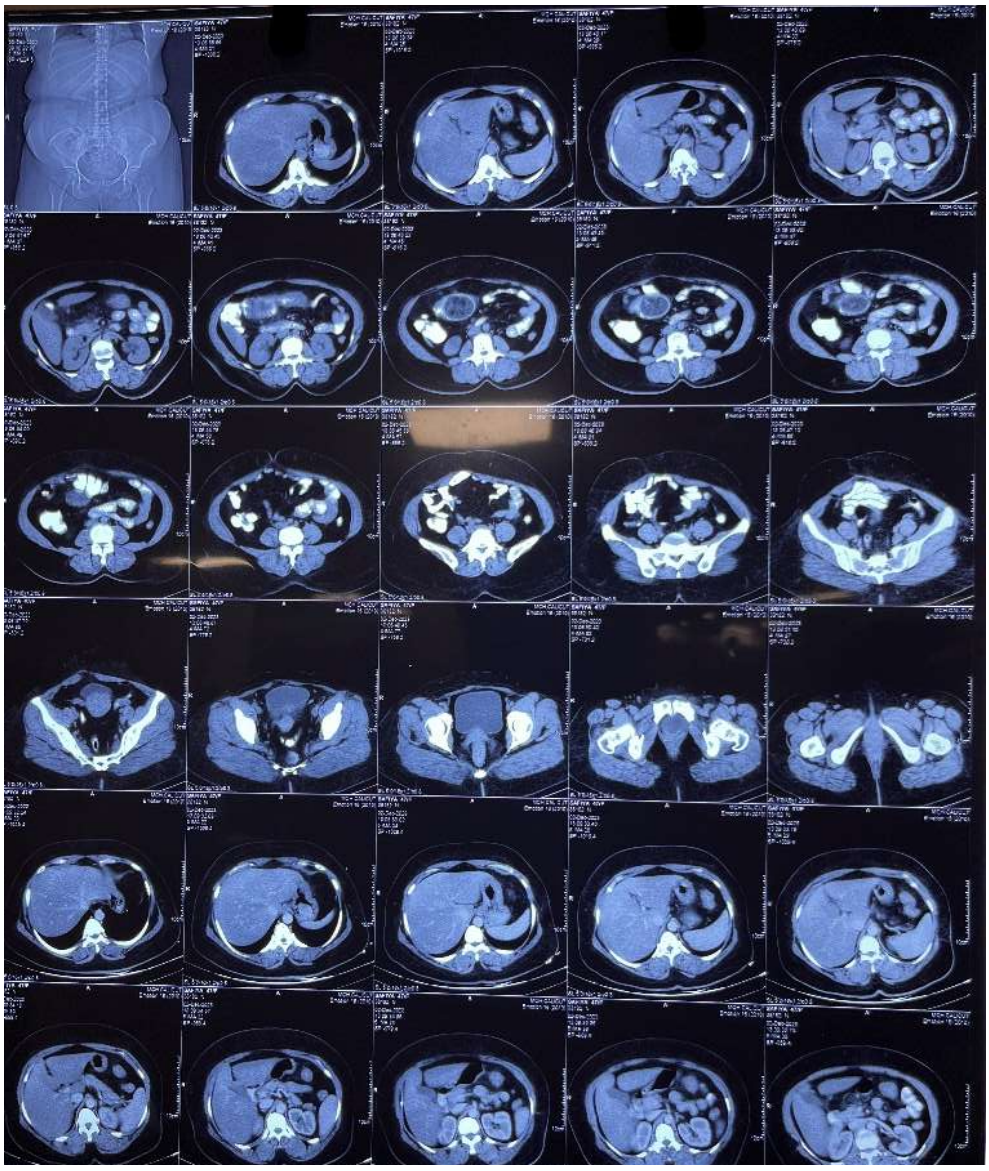


**Figure 1:-**

**CECT image of the lesion**

Laparotomy revealed an intraluminal mass in the mid transverse colon with no adjacent organ involvement, there was no ascites or lymphadenopathy (Fig. 2). There was no evidence of local infiltration or metastasis. The patient underwent a resection of the mass with a 5cm proximal and distal margin with ligation of blood vessels at the origin and an end-to-end colo-colic hand sewn two-layer anastomosis was done. The patient recovered uneventfully and was discharged five days after surgery. Gross examination of the colon specimen showed an oval to round soft to firm consistent mass with surface ulceration. The tumor was well circumscribed but not encapsulated; tumor borders were well defined with no evidence of infiltration of the mesocolon. Histological examination showed a submucosal polyp of size 6.5*4*3 cm composed of adipocytes with mild nuclear atypia separated by sclerotic bands containing occasional stromal cells with enlarged nuclei, IHC was done and CDK4 showed cytoplasmic positivity while MDM 2 was negative, consistent with well differentiated Liposarcoma (fig3 a-c). Follow-up protocol included clinical encounters and laboratory testing every three months, an upper abdomen ultrasound every six months, computed tomography every six months for the first year and annually thereafter, and annual endoscopic surveillance.

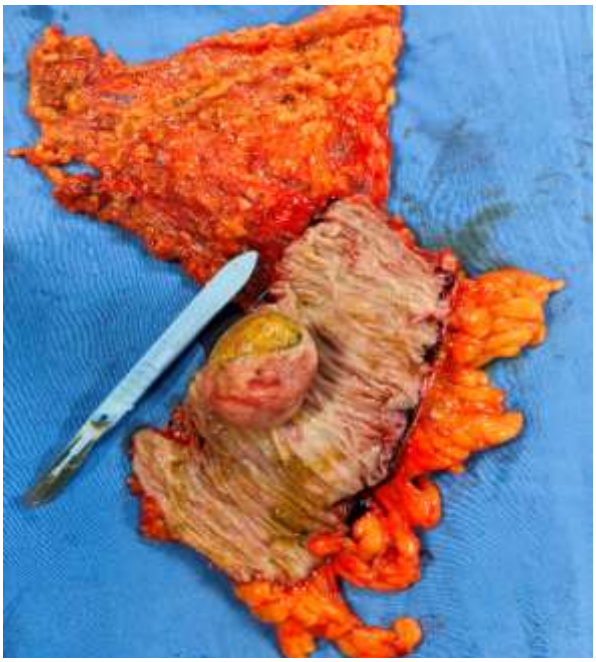
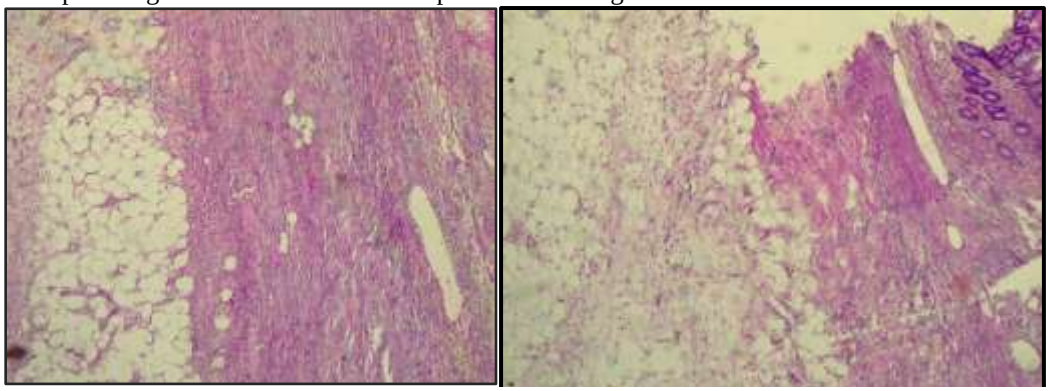
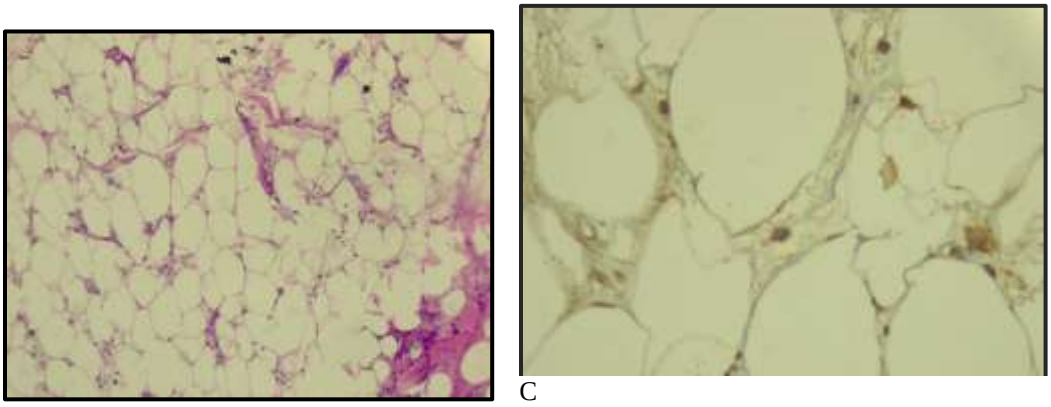


**Figure 2:-**

Cut open image of the transverse colon specimen showing intraluminal mass with surface ulcerations



**A** **B**



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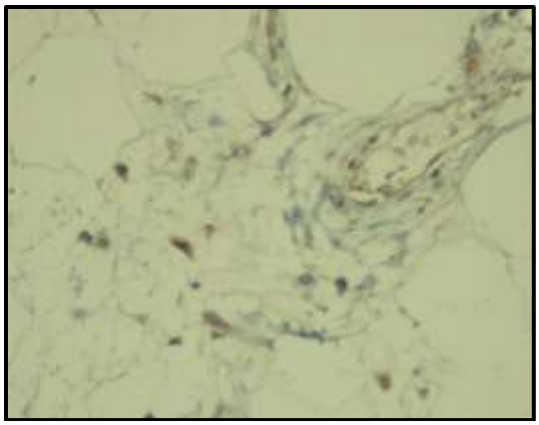

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**Figure 3:-**

Histologic examination of the primary tumor. Tumor was mainly located in the submucosal layer. (A) mature adipocytes seen within the muscular layer and submucosa (hematoxylin-eosin, original magnification 10×); (B)high power view of mature adipocytes with no definite lipoblast; (C) High power view of mature adipocytes.(D) Immunohistochemistry (IHC) showing CDK4 cytoplasmic positivity; (E) IHC showing MDM2 non staining (negative)

Patient was followed up with a CECT abdomen which showed suspicious lesion near anastomotic site, possibility of recurrence at anastomotic site. Colonoscopy & biopsy was done which ruled out the suspicion. Currently patient is doing well and her bowel and bladder movements are normal with improved hemoglobin.

## Discussion:-

Liposarcomas of the large intestine usually present with nonspecific gastrointestinal symptoms such as bleeding, obstruction, diarrhea, abdominal pain and weight loss. It is thus difficult to distinguish them preoperatively from other colon cancers. Primary colonic liposarcoma tends to occur in adults, with a peak incidence between 5th and 6th decades, and an equal sex distribution [12]. WHO classification of liposarcomas recognizes five subtypes: well-differentiated, myxoid, round cell, pleomorphic and dedifferentiated. Pleomorphic liposarcoma is a high-grade tumor containing a variable number of pleomorphic lipoblasts. It is aggressive, showing a high metastasis rate, with the lung representing the most common site of metastasis and a tumor associated mortality of 40%.

The GI tract does not represent a typical location for primary liposarcoma. However, it can secondarily be involved as a site for metastases from liposarcomas located in the retroperitoneum and extremities. Cases of primary liposarcoma have been reported in different parts of the GI tract, such as esophagus, stomach, and small intestine. Primary liposarcoma of the colon is a rare finding. The first case of primary colonic liposarcoma was reported by Wood and Morgenstern in 1989. Since then, eight other cases have been described. Patients were between 46 and 69 years of age, and 6 out of 8 were females. Clinical presentation included non-specific symptoms. Tumors were mostly located in the right colon. Histological subtypes included well differentiated, myxoid, pleomorphic and dedifferentiated types. According to the current criteria for histopathological diagnosis of liposarcoma, the 2 cases of atypical colonic lipomas reported by Snover in 1984can also be considered as well-differentiated liposarcomas of the colon. Recently a case of lipoleiomiosarcoma of the colon has been reported. What is peculiar about our case is that, out of all 8 cases reported our case is the only one with tumor in transverse colon. Benign lipomas and low-grade liposarcomas have been demonstrated to dedifferentiate histologically into more aggressive subtypes

Prognosis for colonic liposarcoma is still difficult to predict. It may be affected by a variety of factors, including location, size, dissemination of the disease, as well as histological type [23,26]. No single morphological factor can predict the clinical outcome reliably; however, tumor depth size, more than 20 mitoses in 10 HPF (High Power Field), and areas of tumor necrosis are usually associated with a worse clinical prognosis [26,27]. In our case, despite evidence of multiple negative prognostic factors (dissemination of the disease in contiguous tissues, pleomorphic subtype and areas of necrosis), mitotic count was less than 10 mitoses in 10 HPF, which could justify the lower malignancy observed.

## Conclusion:-

Only a few cases of primary liposarcoma of the colon have been reported and optimal treatment strategies have not been established yet. However, surgery should be performed whenever feasible. The choice of therapeutic options should be based both on the natural history of the disease and on the patient's individual clinical status. The collection of a larger number of cases is needed for the definition of guidelines for the management of this rare tumor.