

## CASE REPORT

# DIFFUSE COLONIC LIPOMATOSIS IN A PATIENT WITH ADVANCED CARCINOMA OF BREAST

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## ABSTRACT

Diffuse colonic lipomatosis is an exceedingly rare entity. We report a case of diffuse colonic lipomatosis in a patient with advanced carcinoma of breast, the sixth case of diffuse lipomatous involvement of colon in literature and the first case associated with extracolonic malignancy.

**Keywords:** CT scan, diffuse colonic lipomatosis, intestinal lipomatosis, fat halo sign

## INTRODUCTION

Lipomatous lesions of the colon can exist as single or multiple encapsulated lipomas or unencapsulated lobules of adipose tissue.<sup>[1]</sup> Lipomatosis is a term used to describe proliferation of normal fat in various soft tissues including intestine, mediastinum, kidneys and pelvis. Intestinal lipomatosis is the infiltration of submucosal layer of the intestine by mature adipose tissue without formation of tumor.<sup>[2]</sup> Submucosal deposition of fat has been described in patients with long standing inflammatory bowel diseases, cytoreductive therapy, graft versus host disease and renal calculi<sup>[3]</sup>

## CASE REPORT

A 48 year old female with advanced carcinoma breast underwent CT abdomen and thorax for staging of the disease. Scan was done using Philips Brilliance-16 (Philips medical systems, Netherlands) There was no history of any chronic abdominal disease. The body mass index (BMI) of the patient was normal. There was no history of previous surgery, radiotherapy or chemotherapy. USG abdomen was unremarkable. CT Thorax revealed a large soft tissue mass in left breast involving all quadrants with extension to overlying skin and subcutaneous tissue and nodular skin thickening of left breast extending to skin of left upper abdomen and across the midline to skin of right breast. Enlarged bilateral axillary and left supraclavicular lymph nodes were found with a possible sclerotic

metastasis in 12<sup>th</sup> thoracic vertebra. CT abdomen showed presence of diffuse fatty infiltration of submucosa from ileo-cecal junction to rectum. There was no evidence of metastasis to any abdominal visceral organs. After the CT scan the patient was started on neoadjuvant chemotherapy.

## DISCUSSION

Benign lipomatous lesions of the intestine can be seen either as encapsulated collection of adipose tissue, called lipoma or as unencapsulated adipose lying within the submucosa of the intestine.<sup>[1]</sup> The lipomatous involvement of the intestine can be diffuse<sup>[4]</sup> or segmental.<sup>[5]</sup> Gastrointestinal lipomas are most common between 50 and 70 years of age. Most common site for GI lipomas is the colon with small bowel being 2<sup>nd</sup> most common.<sup>[6]</sup> Most common site for colonic lipomas are cecum, ascending colon and sigmoid colon with multiple lipomas being more common in the right colon.<sup>[5]</sup>

Intramural accumulation of fat has been described in cases of Crohn's disease, ulcerative colitis, celiac disease and radiation enteritis.<sup>[7]</sup> It has been also associated with cytoreductive therapy, graft versus host disease, renal calculi<sup>[3]</sup>. In absence of symptoms and radiological findings of inflammatory bowel disease it has been suggested to be a normal finding which may be associated with obesity.<sup>[8]</sup>

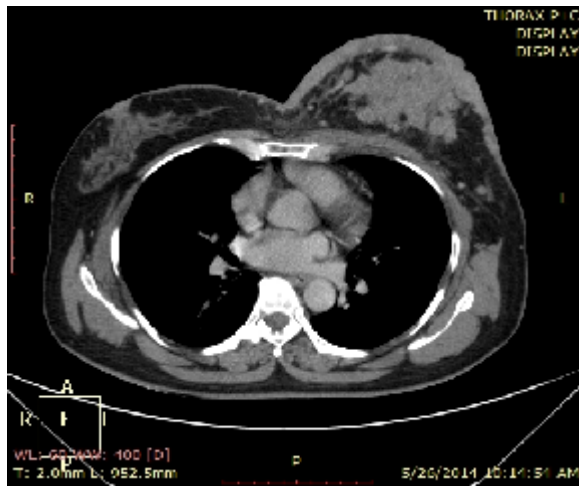


Figure 1: Axial CT image at the thoracic level shows large diffuse infiltrating mass in left breast with nodular thickening of the overlying skin.



Figure 2: Axial CT image shows nodular thickening of the skin overlying the left breast with bilateral axillary lymphadenopathy.

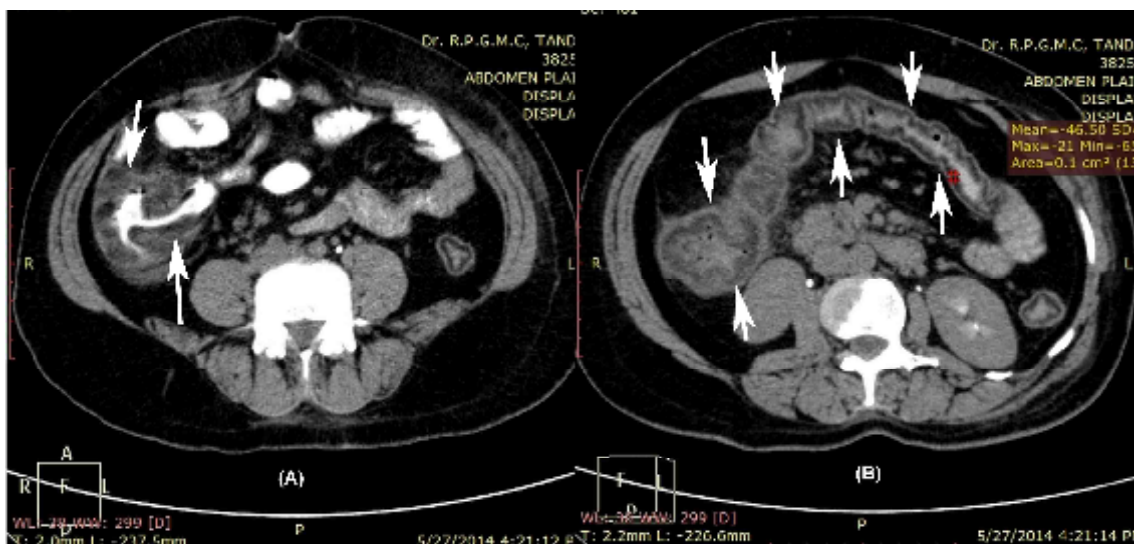


Figure 3: Axial CT scan image of the abdomen shows diffuse sub mucosal fat deposition(white arrows) in cecum (A) and in transverse colon (B).

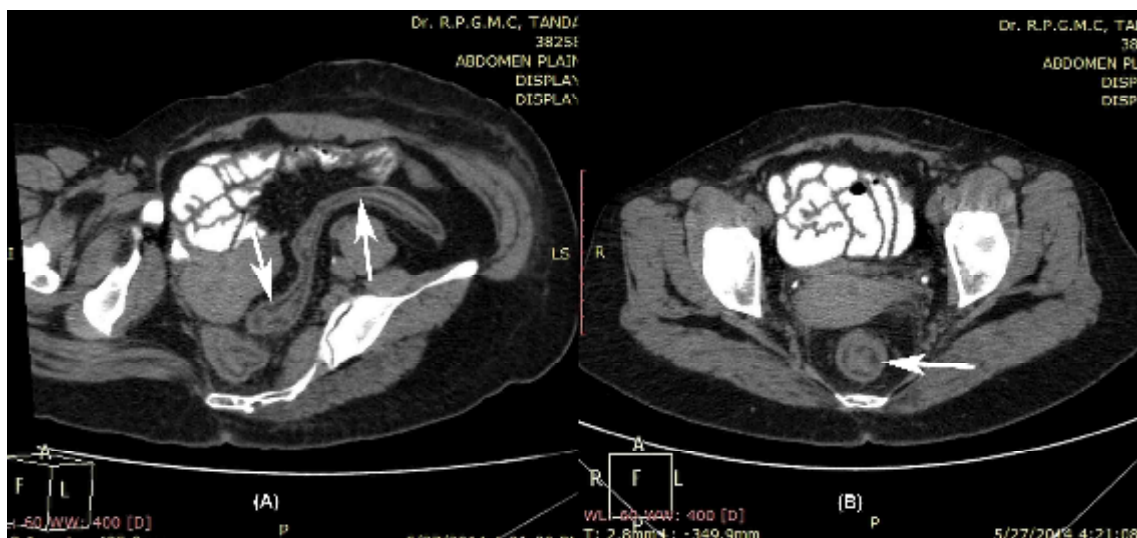


Figure 4: Axial CT scan image of the abdomen shows diffuse sub mucosal fat deposition(white arrows) in sigmoid colon (A) and in rectum(B).

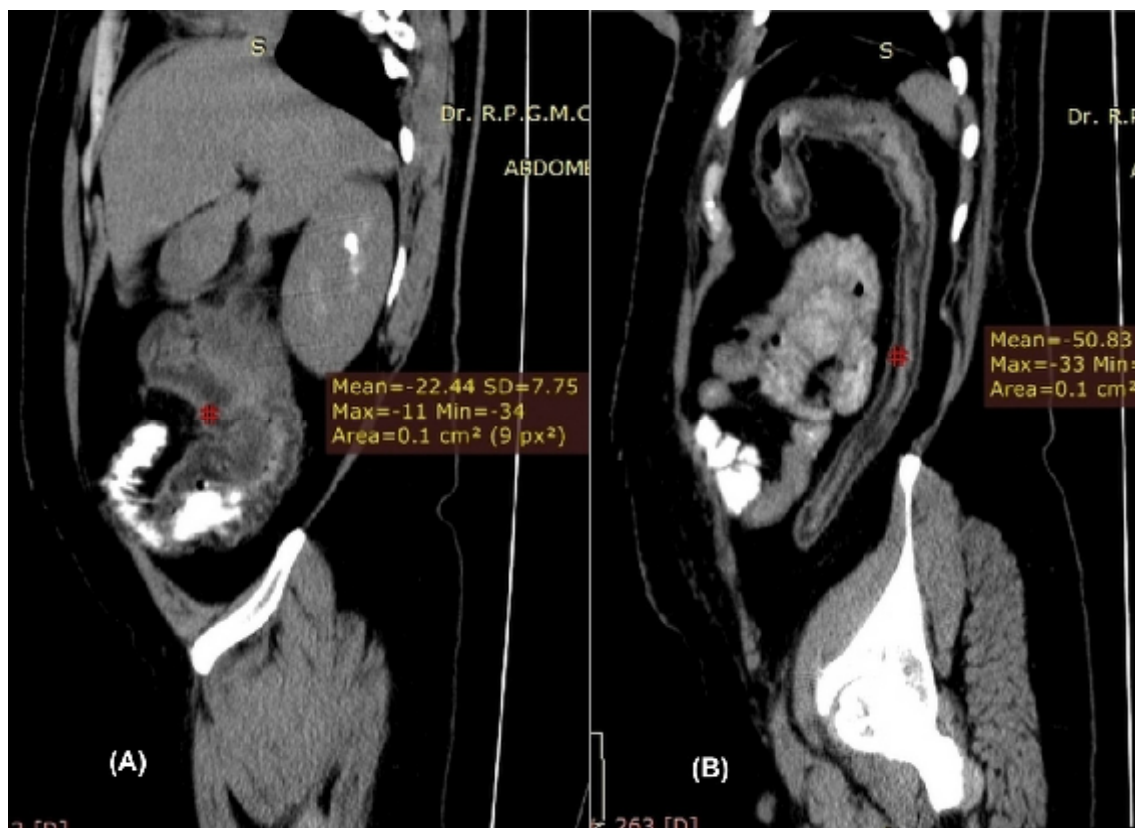


Figure 5: Sagittal CT scan image of the abdomen shows mural thickening of the ascending colon (A) and descending colon (B) with sub mucosal fat deposition.

Diffuse lipomatous involvement of the colon is an extremely rare condition.<sup>[9]</sup> Only 5 cases of diffuse lipomatosis of the colon are described in literature.<sup>[1,9,10,11,12]</sup> Fourteen cases of diffuse intestinal lipomatosis have been reported, as described by Snyder and Cannon in 2013.<sup>[4]</sup>

Scholz et al. have described a single case of intramural fat deposition in the duodenum associated with celiac disease.<sup>[7]</sup>

Obesity and lipidemic disorders have been shown to be the predisposing factors for ileocecal lipomatosis.<sup>[9]</sup> Lipomatosis of ileocecal valve is more common in females. It is rare under the age of 40 years and has been associated with generalized obesity. Only half of the patients are symptomatic and the symptoms include abdominal pain, nausea, vomiting, abdominal distension, diarrhea, constipation and rarely gastrointestinal bleeding and melena.<sup>[13]</sup> Catania et al. have described 10 cases of segmental colonic lipomatosis and 42 cases of lipomatosis of ileocecal valve.

Although deposition of intramural fat in the intestine has been attributed to longstanding inflammatory conditions Muldowney et al. described four

cases of acute fat deposition in bowel wall occurring within 6 months of time in four patients who received cytoreductive chemotherapy.<sup>[14]</sup>

Lipomatous lesions of the GIT although frequently asymptomatic, have been described with intussusceptions, obstruction or bleeding leading to a surgical emergency. They can be confused with carcinoma on gross appearance intraoperatively and intraoperative frozen section may be of importance in such an instance.<sup>[1]</sup> Harisinghani et al.<sup>[8]</sup> have described submucosal fat deposition in intestine in patients without inflammatory bowel diseases.

Our case was non-obese, had no history suggestive of inflammatory bowel diseases, celiac disease, any history of organ grafts, radiotherapy or renal calculi. This is the 1<sup>st</sup> incidentally detected case of diffuse colonic lipomatosis. It is also the 1<sup>st</sup> case associated with an extra-intestinal malignancy (advanced breast carcinoma) The other five cases in literature have been described with recurrent abdominal pain<sup>[10]</sup>, abdominal distension and constipation in a case of Proteus syndrome<sup>[11]</sup>, long standing constipation and giant hypertrophy of epiploic

appendages<sup>[9]</sup>, giant diverticulosis<sup>[12]</sup> and perforation peritonitis.<sup>[1]</sup>

## CONCLUSION

Lipomatous involvement of the gastrointestinal tract in absence of the described predisposing factors is an uncommon occurrence with colon being frequently involved. Diffuse colonic lipomatosis however remains an exceedingly rare entity.

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