

Aneurysmal Dilatation of the Small Bowel

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Aneurysmal dilatation of the small bowel is one of the common abnormal small bowel patterns. It is characterized by focal dilatation of the small bowel loop associated with thickened wall or bowel mass. There are two pathologies that result in this abnormal small bowel pattern. Firstly, there is a large neoplasm originating from small bowel wall with extraluminal extension (exoenteric mass). This mass becomes necrotic and forms cavity that connects to the bowel lumen. This large cavitating mass appears to continue with the bowel giving the appearance of "aneurysmal dilatation". Secondly, there is an infiltrative tumor along the bowel wall. This tumor damages the autonomic nerve plexuses, resulting in focal dilatation of that segment. This dilatation with thickened bowel wall is also called "aneurysmal dilatation".

Major differential diagnosis of "aneurysmal dilatation of the small bowel" is as following;

1. Lymphoma
2. Malignant GIST (Gastrointestinal stromal tumor) or leiomyosarcoma
3. Necrotic metastases
4. Primary small bowel adenocarcinoma

Lymphoma (Figure 1)

Aneurysmal dilatation in lymphoma is usually secondary to infiltrative tumor replacing the muscularis propria with destruction of the autonomic nerve plexuses. Obstruction is uncommon because tumor usually does not elicit desmoplastic response⁽¹⁾. Associated bulky soft-tissue density lymphadenopathy is often noted.

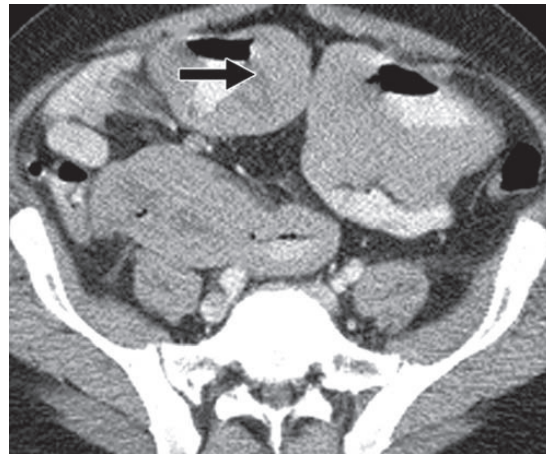


Figure 1. Small bowel lymphoma

CT scan shows diffuse thickened wall of the small bowel with aneurysmal dilatation (arrow). In spite of thickened wall, lymphoma usually does not cause obstruction.

Malignant GIST or leiomyosarcoma (Figure 2, 3)

Aneurysmal dilatation in GIST is secondary to a large mass originating from the bowel wall which cavitates and communicates with the bowel lumen. Lymphadenopathy is usually absent in GIST and is a helpful point of differentiation from lymphoma. Small bowel obstruction secondary to GIST is relatively common, but uncommon in lymphoma^(2,3).

Necrotic metastasis (Figure 4)

The most common primary tumor that metastasizes to small bowel is malignant melanoma, followed



Figure 2. Malignant GIST of the small bowel with liver metastasis

CT scan shows a large bowel mass with aneurysmal dilatation (arrow). There is no evidence of lymphadenopathy in spite of multiple liver metastases. Lack of lymph node metastasis is characteristic for GIST.

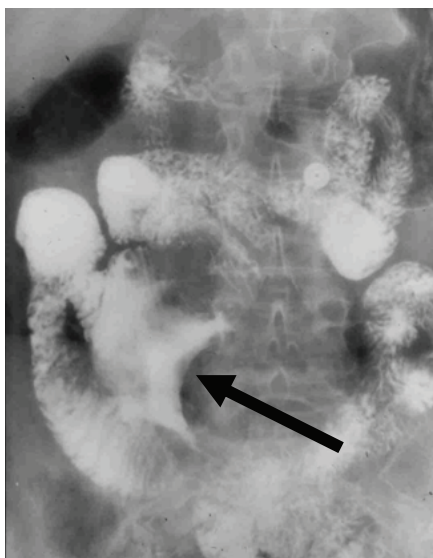


Figure 3. Leiomyosarcoma

Small bowel follow-through study and CT show aneurysmal dilatation of the small bowel (arrows).

by lung cancer, colon cancer and breast cancer. Any of these metastatic neoplasms could become large, cavitated, and connect to the small bowel lumen, producing the aneurysmal dilatation pattern^(4,5). The clue for metastases as the cause of aneurysmal dilatation is that they tend to be multifocal. History of primary cancer outside small bowel is also very helpful information.



Figure 4. Metastatic malignant melanoma to small bowel

CT scan shows a large bowel mass with aneurysmal dilatation secondary to metastatic melanoma (arrows).

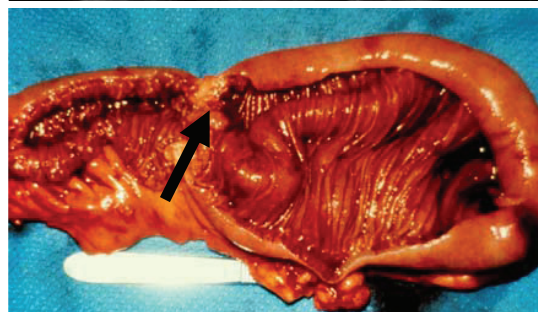
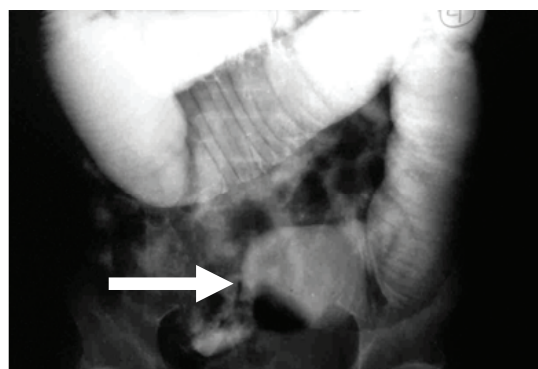


Figure 5 Typical pattern of primary adenocarcinoma with gross pathology correlation.

Small bowel follow-through study shows annular stricture of the small bowel (arrow) causing obstruction and marked dilatation of the proximal small bowel.

Primary adenocarcinoma (Figure 5, 6)

Primary adenocarcinoma of the small bowel is usually presented as intraluminal mass or infiltrative annular stricture with overhanging edges⁽⁶⁾ (Figure 5). However, occasionally, the original mucosal mass can

grow outside the lumen and becomes cavitated giving the appearance of “aneurysmal dilatation” similar to lymphoma or malignant GIST^(7,8) (Figure 6). This pattern is rather an exceptional for primary adenocarcinoma of the small bowel, and should be the last differential consideration. However, it should not be surprising if the pathologic result reveals adenocarcinoma, in spite of this unusual pattern.

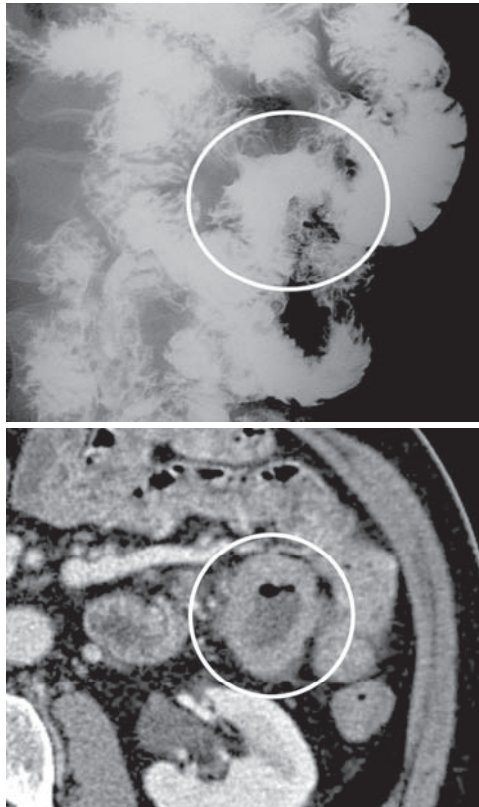


Figure 6. Atypical aneurysmal pattern of primary adenocarcinoma
Small bowel follow-through and CT scan show aneurysmal dilatation of the small bowel secondary to primary adenocarcinoma.

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