Small bowel primary non-Hodgkin lymphoma

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Section: Abdominal imaging
Imaging Technique: CT
Case Type: Clinical Cases
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Patient: 55 years, male

Clinical History:
A 55 year old man with weight loss and a change in bowel habit, presented to our institution for a clinical examination. There was a palpable abdominal mass in the mesogastrium. The patient was also anemic.

Imaging Findings:
Weight loss, anemia, change in bowel habit. CT of the abdomen and small bowel enema.

Discussion:
Tumors of the small bowel are extremely rare representing from 2% to 6% of the tumors of the gastrointestinal tract. Non-Hodgkin lymphoma represents the most common malignant small bowel tumor, accounting for as many as 40% of these malignancies, but only 5% of patients with lymphoma have a primary localization the small bowel. The small bowel is the second most common localization of non-Hodgkin lymphoma of the gastrointestinal tract, the stomach being the most common site. As many 51 % of the patients with non-Hodgkin lymphoma have a small bowel lesion at autopsy. Non-Hodgkin lymphoma are defined as the proliferation of malignant cells from the lymphoid tissue, without hematological involvement. Non-Hodgkin lymphoma of the small bowel is more frequent in the male, with M:F ratio of 1.76, usually between 50 to 60 years of age, but the prognosis is worse in the younger patients and in the female. The criteria for the diagnosis of primary small bowel non-Hodgkin lymphoma is the presence of a lesion localized only in the small bowel, with region lymphadenopathy without hepatic, splenic or hematic involvement.

Lymphatic tissue can be found in the small bowel in the deep portion of the mucosa and submucosa. The intestinal diffusion of lymphatic tissue explain the various radiological appearances and this is also the reason why radiologically, GI lymphomas tend to have similar morphologic characteristics regardless of their site of origin. From the chorion and submucosa, lesions can extend in longitudinally and transversely with mucous damage (tumoral and multinodular types) and infiltration of the whole intestinal wall (infiltrating type). The development towards the serous with infiltration of the bowel loops and of the mesentery constitutes the extraluminal form. The destruction of the myoenteric nervous plexus with tumoral necrosis realize the classic ectatic form. Radiologically it is possible to differentiate four types of small bowel lymphoma: multinodular, infiltrating, tumoral and mesenteric types. The so called psudoaneurysmal type should be considered as an infiltrating type of lymphoma, because it is caused by an infiltration of the myoenteric plexus. The infiltrating type is the most frequent one, and it is localized mainly in the ileum. This form is characterized by modifications of the mucosa which affect progressively the longitudinal intestinal axis. The lesions are either focal or diffuse. The mucosa is thickened and it sometimes has a nodular appearance, then it becomes thinner and the intestinal wall becomes thicker with an increase of the space between the bowel loops, then the lumen is narrowed with rigid contours and finally the lumen becomes suddenly enlarged to give rise to the pseudoaneurysmal cavity described by Hillemand and Cherigie in 1957. This pseudoaneurysmal cavity is
usually centered on the axis of the lumen itself, and this helps in the differential diagnosis with leiomyosarcoma. Sometimes it is rather large, with > 10 cm in diameter, with an irregular wall, and stasis of the contrast medium: the differential diagnosis in these cases is with a diverticulum or with the appearance of post surgical intestinal anastomosis. Not all the classic radiological signs of mucous alterations and narrowing followed by ectasia are always together, and only one of them might be present at times. The diagnosis can be given by double contrast examination of the small bowel, US and CT.

**Differential Diagnosis List:** Primary non-Hodgkin lymphoma of the small bowel

**Final Diagnosis:** Primary non-Hodgkin lymphoma of the small bowel

**References:**

North JH, Pack MS.
Malignant tumors of the small intestine: a review of 144 cases.

Dodd GD.
Lymphoma of the hollow abdominal viscera.
Description: Small bowel enema (enteroclysis), prone view. Non-Hodgkin lymphoma, infiltrating pseudoaneurysmal form: the small bowel double contrast image shows thickened mucosa with nodular appearance, with displacement of adjacent bowel loops. Origin:
Description: Non-Hodgkin lymphoma, infiltrating pseudoaneurysmal form: A large soft tissue mass is seen in the abdomen at the level of the aortic bifurcation. The mass is oval shaped, with an air-filled lumen, with small pouches containing the oral contrast. Origin:

Description: Non-Hodgkin lymphoma, infiltrating pseudoaneurysmal form: the mass appears to belong to the small bowel, and shows a thickened wall with nodular appearance. The mass displaces adjacent small and large bowel loops. Origin:
Description: Non-Hodgkin lymphoma, infiltrating pseudoaneurysmal form: The mass extends inferiorly to the level of the sacro-iliac joint. Origin: