Mesenteric Panniculitis: MDCT Diagnosis
A report of two rare cases

Garg K.C., Kumar R.
Radiology Department, Hamad Medical Corporation
Doha, Qatar

Abstract:
Mesenteric Panniculitis (MP) is a rare benign inflammatory condition of the adipose tissue of the mesentery often diagnosed during multidetector CT studies of the abdomen. Two cases of MP are reported with a brief discussion of the differential diagnosis, the association with other conditions and a review of the literature.

Introduction:
Mesenteric Panniculitis (MP) also known as Liposclerotic Mesenteritis, Mesenteric Lipodystrophy, Mesenteric Lipomatosis and Lipogranuloma of the Mesentery, is a benign condition characterized by non-specific inflammation involving the adipose tissue of the mesentery, with acute inflammatory changes and fat necrosis being the predominant histological findings. In its chronic phase, when fibrosis is dominant, the disease is known as Retractile Mesenteritis although Sclerosing Mesenteritis seems the most appropriate diagnostic term for this entity, characterized by a spectrum of histological findings.

The specific etiology of the disease is unknown. Various causes have been suggested including infection, trauma or ischemia of the mesentery. The disease has been related to other pathological processes such as vasculitis, granulomatous disease, pancreatitis and malignancy. Its prevalence in abdominal CT examinations is approximately 0.6 % (1) commonly appearing as an incidental finding, mostly in middle or late adulthood. An association between MP and pre-existing malignancy has been reported (2).

We report two cases of mesenteric panniculitis:

Case No. 1
A 51-year-old male presented with a history of left scrotal swelling. Duplex Doppler ultrasound revealed a mass in the left testis. Biopsy proved it to be a low-grade leiomyosarcoma. CT examination of the chest and abdomen, done for staging, revealed multiple gall-bladder calculi and a large dense mass of fat arising from the root of the mesentery (Figures 1 and 2). The diagnosis of Mesenteric Lipodystrophy was suggested. Histologically the mass showed fat necrosis and no evidence of malignancy.

Figure 1: Axial CT of mid-abdomen showing a dense mass of fat displacing the loops of small bowel

Figure 2: Sagittal reconstructed image showing the dense mass of fat in mid-abdomen
Case No. 2

A 45 year-old male presented with bilateral swelling of the lower limbs. An ultrasound of the abdomen, done outside HMC, had suggested retroperitoneal lymphadenopathy. Laboratory investigations showed a high level of uric acid (454 umol/L). CT examination of the abdomen revealed a low attenuation benign fatty mass arising from the root of the mesentery with encasement of the mesenteric vessels (Figures 3 and 4). A diagnosis of fat necrosis was suggested. The patient is still on follow-up treatment.

Discussion:

The CT appearances of MP are well recognized and may suggest the diagnosis but they are non-specific and can appear in other conditions such as mesenteric edema, granulomatous diseases, primary or secondary abdominal neoplasms and lymphoma. In cases of MP and known intra-abdominal malignancies differentiating MP from tumoral involvement of the mesenteric lymph nodes is of crucial importance.

The CT appearance of sclerosing mesenteritis can vary from subtle increased attenuation in the mesentery to a solid soft tissue mass. Sclerosing mesenteritis most commonly appears as a solid tissue mass in the small bowel mesentery although infiltration of the pancreatic region or the portal hepatic region is also possible.

The mass may envelop the mesenteric vessels and over time collateral vessels may develop. There may be preservation of fat around the mesenteric vessels, a phenomenon that is referred to as the "Fat Ring Sign". This finding may help distinguish sclerosing mesenteritis from other mesenteric processes such as lymphoma, carcinoid tumor or carcinomatosis. In addition, Sabate et al described the presence of a tumoral pseudocapsule in 50% of patients with mesenteric panniculitis.

Conclusion:

Sclerosing mesenteritis is a complex disorder characterized by mesenteric inflammation. Its clinical manifestation can be non-specific and CT may be the first imaging modality to suggest the diagnosis. CT appearances vary depending upon the predominant tissue component (fat, inflammation or fibrosis). In the proper clinical setting CT plays an important role in suggesting the diagnosis and can also be useful in distinguishing sclerosing mesenteritis from other mesenteric diseases such as lymphoma or carcinoid tumor.

References: