

Pancreatitis associated panniculitis

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To the Editor,

Severe pancreatitis can provoke systemic inflammation and even lung injury and shock. Fat necrosis can be observed in peripancreatic, mesenteric and retroperitoneal fat and at distant foci. Panniculitis is defined as an inflammation of subcutaneous fat that underlies the epidermis of the skin. It may involve either the fat lobules themselves or the connective tissue septa between the lobules. Clinically, panniculitis presents as ill-defined, tender, edematous, erythematous and red brown or blue nodules. The differential diagnosis of the clinically non-specific nodules is brought (erythema nodosum, abscess, erythema induratum, lupus profundus, Weber-Christian disease, or cutaneous metastases) but only one type of lobular and septal panniculitis without vasculitis is typically associated to severe pancreatic disease and then called pancreatic panniculitis (1). Clinically the subcutaneous lesions are painful in about 50% of the cases, requiring analgesics and often precede the clinical symptoms of pancreatitis (2). They present more typically on the lower limbs but they can also occur on any other part of the body : trunk, abdomen (Fig. 1), arms, thighs and buttocks (Fig. 2).

They can easily be mistakenly diagnosed as abscesses, also on CT scan pictures. Moreover, the lesions are draining an oily sterile substance that results of liquefaction necrosis of adipocytes (steatonecrosis), what can be misinterpreted as pus.

It is important for physicians to be aware of this association. Furthermore, in patients with pancreatic tumor the abdominal complaints are often absent which means that the diagnosis of panniculitis should be followed by screening for pancreatic disease, also in patients without abdominal complaints. Early recognition of the lesions also prevents mistreatment and aim treatment immediately to the underlying disease, usually severe pancreatic disease. The treatment of cutaneous lesion is conservative. Incision and drainage is of no value. They will disappear with the treatment of the underlying disease, resolving over a period of days to weeks.

Pathology findings are typically 'ghost-like' cells consisting of residual adipocyte cell membranes, partially digested by lipolytic enzymes. Although fat necrosis is put forward as pathognomonic for the disease, lesions without fat necrosis are described. The inflammatory infiltrate can consist only of neutrophils associated with nuclear dusting, centered on the connective tissue septa



Fig. 1. — Lesions at different stage of evolution on the mid and low abdomen.

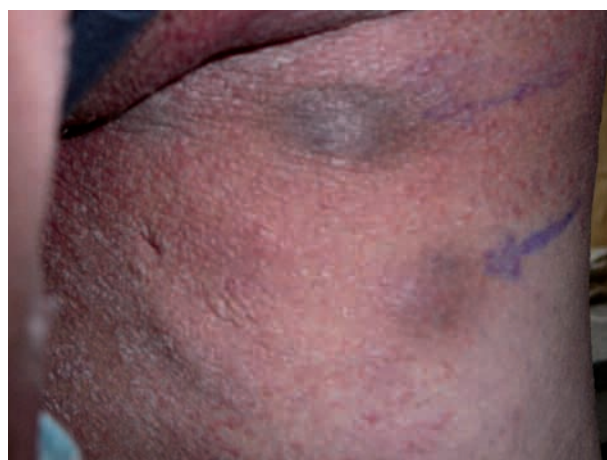


Fig. 2. — Lesions at the buttocks

of the subcutaneous fat. These histological findings are consistent with the early stage of pancreatic panniculitis despite the absence of steatonecrosis. In a later stage granulomatous changes can occur (4).

Pancreatic panniculitis is an uncommon complication, occurring in 0,3 to 1% of patients with pancreatic disease (3), most often severe alcoholic pancreatitis or

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pancreas adenocarcinoma and much rarer with other disorders of the pancreas such as chronic pancreatitis (4), pseudocysts (4), pancreatic duct stenosis (5), non functional neuroendocrine carcinoma and insulinoma (6), pancreatic stenosis (7), acinar cell carcinoma (8), and abdominal trauma. The pathogenesis is not totally understood. A possible explanation is an enhanced permeability of the microcirculation due to a production of inflammatory factors and digestion damaged endothelial wall (2), followed through disseminated fat necrosis caused by the release of lipase, phospholipase and other pancreatic enzymes in plasma will disappear with the treatment of the underlying disease, resolving over a period of days to weeks.

References

1. FEUER J., SPIERA H., PHELPS R.G., SHIM H. Panniculitis of pancreatic disease masquerading as systemic lupus erythematosus panniculitis. *J. Rheumatol.*, 1995, **22** : 2170-2172.
2. FRANCO-PONS N., GEA-SORLÍ S., CLOSA D. Release of inflammatory mediators by adipose tissue during acute pancreatitis. *J. Pathol.*, 2010, **221** : 175-182.
3. CHIARI H. Über die sogenannte Fettnekrose. *Prag. Med. Wochenschr.*, 1883, **8** : 255-256.
4. SIBRACK L.A., GOUTERMAN I.H. Cutaneous manifestations of pancreatic diseases. *Cutis*, 1978, **21** : 763-768.
5. HUGHES S.H., APISAMTHANARAX P., MULLINS F. Subcutaneous fat necrosis associated with pancreatic disease. *Arch. Dermatol.*, 1975, **111** : 506-510.
6. PREISS J.C., FAISS S., LODDENKEMPER C., ZEITZ M., DUCHMANN R. Pancreatic panniculitis in an 88-year-old man with neuroendocrine carcinoma. *Digestion*, 2002, **66** : 193-196.
7. LAMBIASE P., SEERY J.P., TAYLOR-ROBINSON S.D., THOMPSON J.N., HUGHES J.M., WALTERS J.R. Resolution of panniculitis after placement of pancreatic duct stent in chronic pancreatitis. *Am. J. Gastroenterol.*, 1996, **91** : 1835-1837.
8. MARTIN S.K., AGARWAL G., LYNCH G.R. Subcutaneous fat necrosis as the presenting feature of a pancreatic carcinoma: the challenge of differentiating endocrine and acinar pancreatic neoplasms. *Pancreas*, 2009, **38** : 219-22.