

## Pancreatic Panniculitis as a Sign of Adenocarcinoma of Unknown Origin

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Pancreatic panniculitis is a rather rare condition that results from fat necrosis due to release of pancreatic enzymes from pancreatic tissue. We report a case of pancreatic panniculitis as a sign of adenocarcinoma of unknown origin.

### Patient Description

A 75 year old woman presented with painful nodes on both shins of 1 month's duration. She had also lost 5 kg in weight during the preceding few months. Her medical history included a myoma and a simple ovarian cyst that had been treated by hysterectomy and oophorectomy, respectively, 10 years previously, cholecystectomy 10 years previously, and total left knee replacement 4 months previously.

Physical examination was unremarkable apart from an enlarged liver palpated 2 cm below the costal margin. Inspection of the skin revealed round, erythematous, painful nodes on both shins and dorsal aspect of the legs. Histologic study of skin biopsy samples from one of the nodes demonstrated mild perivascular neutrophilic infiltrates, deep interstitial lymphohistiocytic infiltrates at the subcutaneous layer, and massive fat necrosis with calcium deposition. Vasculitis was not present.

Complete blood count was normal, erythrocyte sedimentation rate 50 mm/hour, and electrolyte, creatinine, transaminase and amylase levels within normal range. Alkaline phosphatase measured 128-193 U/L (normal 40-129 U/L), gamma-glutamyltransferase 80-288 U/L (normal 11-50 U/L), and lipase 11,450 U/L (normal 16-63 U/L). Serologic tests for recent infection with cytomegalovirus, Epstein-Barr virus,

Brucella, hepatitis B and Q fever were all negative. Findings for antistreptolysin O and purified protein derivative were negative. Antinuclear antibody and complement were within normal range, as were  $\alpha_1$  antitrypsin and angiotensin-converting enzyme levels.

On abdominal computed tomography an enlarged liver was observed with multiple echogenic lesions measuring up to 8 x 8.7 cm on both lobes. There were no lesions in the pancreas, which was atrophic. Liver biopsy demonstrated an adenocarcinoma. The possibility of a pancreaticobiliary primary malignancy was excluded on the basis of immunostains for CA 19-9 and keratin 19, and negative stains for alpha-fetoprotein and hepatocyte antigen excluded the possibility of hepatocellular carcinoma. Thus, the diagnosis was metastatic adenocarcinoma of unknown origin based on the clinical and pathologic findings. No other significant pathologic lesions were identified on abdominal, chest and pelvic CT, or on colonoscopy, gastroscopy and mammography.

The patient was treated with analgesic agents and later with antibiotics because of unexplained fever. The subcutaneous nodules spread to the upper extremities and became very painful. The patient died 7 weeks after hospital admission.

### Comment

Pancreatic panniculitis occurs in approximately 2% to 3% of all patients with pancreatic diseases. It usually appears in association with acute and chronic pancreatitis, but has also been described in patients with

pancreatic carcinoma, usually acinar cell type. In rare cases, it is associated with pancreatic divisum, pancreatic pseudocyst, vasculopancreatic fistulas, and abdominal trauma [1,2]. In up to 45% of affected patients, pancreatic panniculitis is the presenting symptom of a pancreatic pathology [3]. Sometimes there is no demonstrable pancreatic disease. Pancreatic panniculitis was also reported by Corazza et al. [4] as a first sign of liver carcinoma. Our patient demonstrated a typical picture of pancreatic panniculitis on both clinical and pathologic grounds, although no pancreatic disease was demonstrated.

Clinically, pancreatic panniculitis presents as erythematous subcutaneous nodules, usually on the distal lower extremities, although other locations have been reported. The nodules tend to ulcerate spontaneously and exude an oily brown material, the end-product of adipocyte necrosis. The subcutaneous fat necrosis may be accompanied by fat necrosis in other tissues as well, such as peri-articular fat (resulting in acute arthritis), omentum fat (resulting in peritonitis), and also pleuritis, pericarditis and fat necrosis of the bone marrow.

The histologic features consist of mostly lobular panniculitis with massive necrosis of adipocytes. The fat necrosis leads to the formation of "ghost" adipocytes, which have lost their nuclei and contain a fine granular and basophilic material within their cytoplasm because of calcification. The treatment of pancreatic panniculitis is directed at the underlying pancreatic disease.

In summary, we describe the dramatic and fatal course of a patient who demonstrated a clinical picture of panniculitis, which laboratory workup revealed to be pancreatic panniculitis due to adenocarcinoma of unknown origin.

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