Excruciating Thigh Pain and Hepatic Air Collection

(See pages 1591–2 for the Photo Quiz)

Figure 1. CT of the proximal thighs showing primary edema of the right thigh muscles with subfascial embedded air (arrows)

Diagnosis: Clostridium septicum myonecrosis.

CT findings (figures 1 and 2) were consistent with infection of a liver metastasis as a result of gas-producing bacteria. Culture specimens grew C. septicum. The patient died 28 h after onset of symptoms despite intensive medical treatment. Clostridium species are anaerobic, gram-positive, spore-forming bacteria. Clostridial infections are believed to be more prevalent among patients with malignant diseases than among the general population [1–5]. C. septicum, however, may have a specific relationship with colorectal adenocarcinoma. In several case series, C. septicum appeared to be highly associated with right-sided colon cancer, which is often occult at the time that infection occurs [1–4]. Further predisposing conditions include hematological malignancies, cyclic neutropenia following chemotherapy, and diabetes [1, 7]. Metastatic myonecrosis, a myonecrosis in the absence of local trauma, is an uncommon presentation of C. septicum infection [6, 7]. C. septicum myonecrosis is characterized by fulminant destruction of muscles and septicemia, with 100% mortality rates for patients not receiving early treatment with antibiotics and aggressive surgical debridement [1–3, 7]. Even with prompt and aggressive surgical debridement and appropriate antibiotic treatment, metastatic infection with C. septicum is associated with a high mortality rate (70%–80%) [1–3, 7]. Extremity myonecrosis has been described secondary to intraabdominal abscesses extending directly along fascial planes, but hematogenous lesions were also described as “spontaneous gas gangrene” [8]. Myonecrosis must be differentiated from cellulitis on the basis of the depth of the infection and whether the infection is necrotizing. It has been proposed that tumors of the colon act as a source for systemic contamination from C. septicum bacteria. The gas-containing hepatic lesions in our patient represented infected metastases. It can be speculated that the number of cases of C. septicum myonecrosis might increase in the future as a result of changing practices in the treatment of colon cancer with advanced synchronous metastases, including the increasing use of primary chemotherapy before surgery.

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