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OMENTAL CAKING IN HODGKIN'S DISEASE
COMPUTED TOMOGRAPHY FINDINGS

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Neoplastic infiltration of the greater omentum is most commonly caused by metastatic ovarian, gastric, colonic, or pancreatic carcinoma. Because the omentum lacks lymphoid elements, lymphomatous infiltration is uncommon. To date, omental involvement by lymphoma has been reported exclusively in patients with non-Hodgkin's lymphomas. In this report, the computed tomography findings of omental caking caused by Hodgkin's lymphoma are described. Although rare, both Hodgkin's and non-Hodgkin's lymphomas should be included in the differential diagnosis of omental caking. © Elsevier Science Inc., 1996

KEY WORDS:

Omental caking; Hodgkin's disease; Lymphoma; Neoplasm

INTRODUCTION

Omental caking, defined as replacement of the normal omental fat by soft-tissue mass, is most typically caused by diffuse neoplastic infiltration. The most common primary malignancies that metastasize to the omentum in this fashion are ovarian, gastric, colonic, and pancreatic carcinomas (1). Lymphomatous involvement of the omentum occurs infrequently. To date, omental caking from lymphoma has been noted exclusively in non-Hodgkin's lymphomas (2–5). This report describes a case of omental caking caused by Hodgkin's lymphoma.

CASE REPORT

A 56-year-old man initially presented with a left-groin mass. Biopsy revealed the reticular variant of lymphocyte-depleted Hodgkin's disease (Figure 1). An abdominal computed tomography (CT) scan demonstrated left inguinal and bulky mesenteric adenopathy. Chemotherapy (consisting of thiotepa, vinblastine, procarbazine, and prednisone) was instituted, and a follow-up CT examination 5 months later showed total resolution of the inguinal adenopathy with a significant reduction in the size of the mesenteric nodes. Another course of chemotherapy (addition of doxorubicin, bleomycin, and vincristine) was then administered. A repeat CT scan 4 months later showed progression of mesenteric and inguinal adenopathy. Two months later, the patient, complaining of increasing weight loss, anorexia, abdominal pain, and obstipation, presented to our institution. A contrast-enhanced CT study of the abdomen and pelvis showed extensive paraesophageal, paracardiac, retrocrural, and paraaortic adenopathy, with a large necrotic mesenteric mass encasing the superior mesenteric artery (Figure 2). Omental involvement was apparent, manifested by both a reticulonodular infiltrative pattern to the omental fat as well as extensive, soft-tissue omental caking that separated the colon from the anterior abdominal wall. Fine-needle aspiration of the abdominal mass revealed lymphoma, compatible with recurrent Hodgkin's disease. Despite additional chemotherapy with more aggressive drug combinations, inexorable progression of the Hodgkin's disease occurred and

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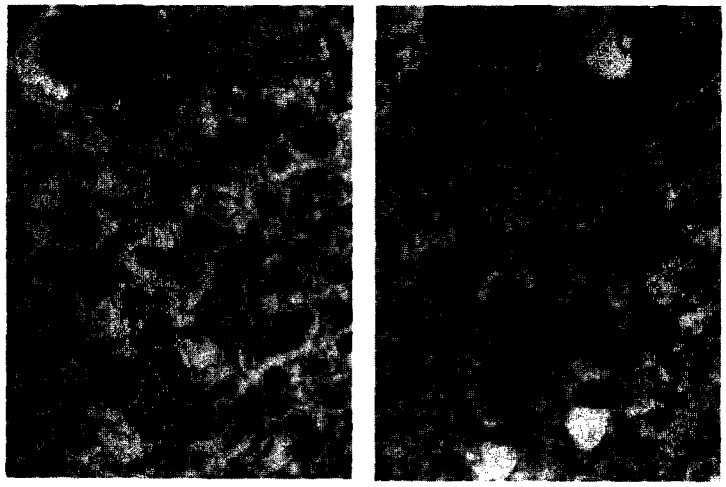

A B

FIGURE 1. **(A)** Lymph node biopsy specimen demonstrates partial nodal effacement by an infiltrate of atypical large mononuclear and multinucleated Reed-Sternberg variants (H & E stains, original magnification × 450), and occasional classic binucleate Reed-Sternberg cells *(inset)* (H & E stain, original magnification × 750). **(B)** Reed-Sternberg cells and variants demonstrate cytoplasmic membrane and punctate perinuclear staining pattern for Leu-M1 (CD15), characteristic of Hodgkin's disease (immunoperoxidase, original magnification × 450).

he died 5 months later, approximately 14 months from the time of initial diagnosis.

DISCUSSION

The greater omentum is a fibrofatty membranous structure formed by a continuation of the anterior and posterior visceral peritoneal surfaces. It extends inferiorly from the stomach and folds upon itself, draping over the small bowel and attaching to the superior aspect of the transverse colon. On CT examination, it appears as a fat-density structure located anterior to the transverse colon. Neoplastic involvement of the greater omentum is a well-recognized entity that is most frequently caused by metastatic infiltration by ovarian, gastric, colonic, and pancreatic carcinomas. Four patterns of omental involvement have been described, including (a) omental caking—replacement of the normal omental fat by soft tissue, which separates the bowel from the anterior abdominal wall; (b) small omental nodules, with fine infiltration of the omental fat causing a "smudged" appearance; (c) cystic omental masses; and (d) multiple discrete nodules (6).

Lymphoma infrequently involves the omentum. This is presumably due to the fact that the omentum

A B

FIGURE 2. **(A)** Contrast-enhanced CT scan shows a necrotic mesenteric mass (M) encasing the superior mesenteric artery *(arrow)*. Note the presence of reticulonodular infiltration and early caking of the greater omentum anterior to the colon *(arrowheads)*, and the presence of periaortic adenopathy. **(B)** CT scan at the level of the aortic bifurcation shows omental caking *(arrowheads)* that has separated the bowel from the anterior abdominal wall.

is composed of fibrofatty tissue devoid of lymphoid elements. Although an autopsy study of 322 patients with non-Hodgkin's lymphoma revealed evidence of either serosal or omental invasion in approximately 20% of patients, the premortem radiological diagnosis of lymphomatous infiltration of the omentum is uncommon (7). In reviewing the literature, only sporadic cases of non-Hodgkin's lymphoma causing omental infiltration have been described (2–6). A review of two large series (1–6) of omental abnormalities (52 cases) revealed only one case of lymphomatous involvement of the omentum, manifested as a "smudged" omental appearance (6). True omental caking secondary to lymphoma was initially reported in 1989 in two patients with American Burkitt lymphoma (2).

Omental involvement recently was recognized to be an uncommon manifestation of acquired immunodeficiency syndrome (AIDS)–related non-Hodgkin's lymphoma (3–5). These AIDS-related lymphomas have a predilection for involving extranodal sites, with the gastrointestinal tract most frequently affected. The AIDS-related non-Hodgkin's lymphomas that have caused omental caking have usually been high-grade, aggressive tumors, and they are generally associated with a poor overall prognosis. It is important to recognize that omental infiltration can occur in these patients in the absence of associated mesenteric or retroperitoneal adenopathy (3, 4).

In this report, the CT findings of omental caking caused by Hodgkin's lymphoma are described. Although rare, both Hodgkin's and non-Hodgkin's lymphomas should be considered in the differential diagnosis of omental infiltration with or without associated adenopathy.

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