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Malignant Lymphoma Presenting in Gluteal Muscles: Case Report and Brief Review of the Literature

Roberta Sonnino, MD,* and Angelos A. Kambouris, MD†

Clinical and radiographic findings of tumor masses in skeletal muscles are suggestive of fibromatoses or of soft tissue sarcomas. In patients with an established diagnosis of malignant neoplasms, such masses are usually attributed to metastases. We report a patient who had localized extranodal histiocytic lymphoma, stage IE, of the gluteal muscles, which posed several diagnostic and therapeutic problems prior to establishing the correct diagnosis.

Case Report

A 65-year-old, moderately obese, diabetic, white female developed a rapidly enlarging, painful mass in her right buttock while recovering from a lumbar laminectomy. The mass was initially small, located in the area of intramuscular injections, and was thought to represent fat necrosis, hematoma, or a small abscess. Over a three-week observation period, however, the mass enlarged, with obvious edema and enlargement of the subcutaneous veins of the right leg, and the pain became worse. The persistent, incapacitating symptoms pointed to possible complications at the injection site as the underlying cause. A computed tomography (CT) scan of the pelvis demonstrated a large mass, replacing the gluteus medius and minimus muscles, abutting against the outer plate of the right iliac wing, and displacing the gluteus maximus muscle (Fig 1). Radiographs of the lungs and pelvis were normal. Noninvasive vascular studies showed no occlusions of the arterial or venous system to account for the massive swelling. The hemoglobin was 9.6 g/dL. Liver enzymes were normal. The clinical and radiographic diagnosis was that of soft tissue sarcoma, and the patient underwent an open biopsy for further diagnosis and treatment planning. After traversing a thick layer of gluteal panniculus and incising the gluteal fascia, a gelatinous, friable malignant mass was found, blending with the muscle belly of the gluteus medius. Multiple biopsy specimens were obtained, and the area was marked with hemoclips. The histological report showed an infiltrative process involving the native fascia and muscle and fibrofatty tissues, composed of lymphoid cellular elements, with frequent mitoses. The histopathological diagnosis was non-Hodgkin's large-cell type (histiocytic) lymphoma (Fig 2). Postbiopsy investigation, including intravenous urograms, CT of the chest, bone scan, and bone marrow biopsy, showed no other abnormalities. The patient was discharged on the eighth postoperative day and was to be treated with chemotherapy and irradiation on an outpatient basis. She failed to respond to treatment and died five months later. No autopsy was obtained.

Discussion

According to the 1981 SEER report (1), 24% of non-Hodgkin's lymphoma originates in extranodal sites. Histiocytic

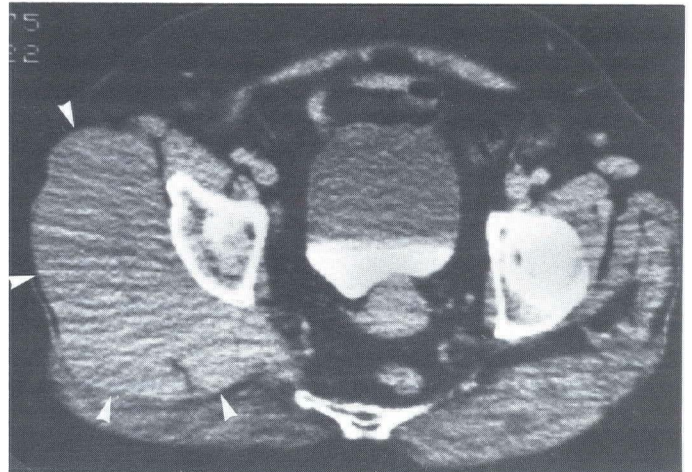


Fig 1—Computed tomography of pelvis, depicting right gluteal mass.

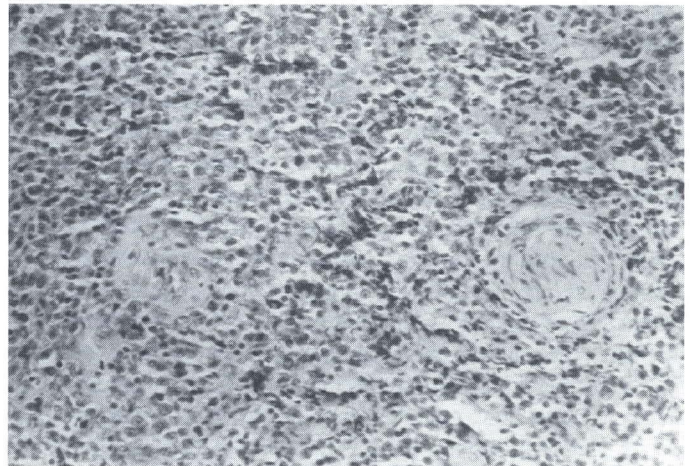


Fig 2—Photomicrograph of biopsy specimen (hematoxylin-eosin stain, X64).

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Table
Extranodal Lymphoma in Muscles, Summary of Reported Cases

Authors	Year	Age (years)/Sex	Site	Histology	Treatment	Follow-up
Gartner (4)	1959	63/M	Eye muscles (rectus medius and inferior)	Giant follicular lymphoma recurrent after irradiation	Orbital exenteration	Recurrent lymphoma treated with irradiation. Died of disease two years after initial diagnosis.
Pileri et al (5)	1979	61/M	Right quadriceps femoris (posttraumatic)	Poorly differentiated lymphocytic lymphoma, diffuse and nodular	Surgical resection	Chemotherapy for metastases four months postoperatively. No evidence of disease two years later.
Kandel et al (6)	1984	62/M	Right quadriceps femoris (posttraumatic)	Poorly differentiated lymphocytic lymphoma stage IIE (lumbar lymph nodes on lymphangiogram; no biopsy)	Biopsy; irradiation and chemotherapy	Died of stage IV lymphoma in one year. Autopsy: residual lymphoma, right thigh.
Ellstein et al (7)	1984	19/F	Forearm muscles	T-cell lymphoma	Incomplete surgical excision; postoperative irradiation	No recurrence one year later.
Berg et al (8)	1985	60/M	Muscles, left calf	B-cell lymphoma	Biopsy; chemotherapy	Not reported.
Berg et al (8)	1985	59/M	Deltoid muscle and torso	B-cell lymphoma	Biopsy; chemotherapy	Not reported.
Sonnino & Kambouris (present study)	1988	65/F	Gluteus muscles (medius and minimus)	Large cell lymphoma	Biopsy; chemotherapy and irradiation	No response to treatment. Died of disease within five months of diagnosis.

lymphoma is the most frequent type, and the gastrointestinal tract is the most frequent site of extranodal lymphoma (1-3). The frequency of extranodal non-Hodgkin's lymphoma presenting as a muscle mass cannot be ascertained. In a collective review of 1,467 cases of extranodal lymphoma by Freeman et al (2), 8.3% (122 patients) had lymphoma in connective tissues including orbital muscles. Specific information regarding the muscles involved is not available. We have found only five reports (4-8) of seven patients in whom a muscle mass was the presenting site of extranodal non-Hodgkin's lymphoma. Our patient constitutes the eighth case (Table) and is unusual in that the lymphoma presented in the gluteal rather than the peripheral muscles. Because the site of the lymphoma was in the general area of administered intramuscular injections and because of the previous laminectomy, the symptoms were attributed to complications of the injections rather than the underlying lymphoma. The CT-imaging information favored the diagnosis of the more frequently encountered soft tissue sarcoma rather than the rare entity of extranodal lymphoma. Once the histological diagnosis was established, we were able to correctly identify the lymphoma as the underlying cause of pain.

Extranodal lymphomas are fairly frequent and do not arise from muscle cells per se. Rarely such tumors present as muscle masses without other evidence for disseminated lymphoma. In

our case, investigation failed to produce evidence of lymphoma elsewhere, although the patient died within five months without additional diagnostic studies. We wish to emphasize that when muscle masses are evaluated, lymphoma should be included in the list of diagnostic possibilities. Such consideration leads to handling of the biopsy material in a manner that permits immunological marker studies for better characterization.

Summary

Non-Hodgkin's lymphoma presenting in skeletal muscles is rare; only seven such cases have been reported previously. Our patient with histiocytic lymphoma of the right gluteal muscles, stage IE, constitutes the eighth such reported case. Symptoms are similar to those produced by soft tissue sarcomas. The suspicion of lymphoma should lead to better handling of the biopsy material, to modification of planned extensive operations, and ultimately to multimodal therapy based on stage and histological type of the disease.

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