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CASE REPORT

Disseminated Lymphoma Presenting as Acute Thigh Pain and Renal Failure

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A 66-year-old diabetic man presented with severe right thigh swelling and pain together with acute renal failure. At autopsy, this was found to be due to disseminated high grade B cell lymphoma invading the psoas muscle and multiple organs, including the kidneys. The unique presentation of this case emphasizes the need for increased awareness of the variety of ways in which lymphoma can manifest itself.

Keywords psoas muscle mass, high grade B cell lymphoma, renal failure

INTRODUCTION

Non-Hodgkin lymphomas (NHL) are a heterogeneous group of malignancies of the lymphoid system. Based on the World Health Organization classification, these diseases have been classified as B-cell and T-cell neoplasms, with B-cell lymphomas accounting for approximately 90% of all lymphomas.

Unlike Hodgkin's disease, NHL is much less predictable in its behavior and has a far greater predilection to disseminate to extranodal sites. Both non-Hodgkin's and Hodgkin's lymphoma have been reported to invade and envelope organs,^[1] but malignant lymphoma is rarely found in skeletal muscle.^[2]

This case illustrates that even in the very late stages of this disease, it can present in an unexpected way.

CASE REPORT

A 66-year-old man presented to the accident and emergency department with a painful right groin and

increasing thigh swelling. He had a medical history of non-insulin-dependent diabetes for 12 years and chronic renal failure-serum creatinine approximately 170 $\mu\text{mol/L}$.

One week prior to admission, he felt systemically unwell and noticed he had developed a painful and inflamed, red swollen right thigh. His primary care physician initially treated him for herpes zoster with acyclovir and NSAIDs for pain relief. His condition worsened, and he self-referred to his nearest accident and emergency department. Upon examination, his blood pressure was 144/77 mm Hg, heart rate was 90 beats/min, he had tachypnea, and his temperature was 38°C. The main physical findings were ascites, right thigh swelling and inflammation, and pulmonary edema. Biochemistries showed a deterioration of renal function from a baseline serum creatinine of 170 to 592 $\mu\text{mol/L}$, Hb 10.5 g/dL, WCC 40.45 $10^9/\text{L}$, platelets 96 $10^9/\text{L}$, urea 25.9 mmol/L, K 5.27 mmol/L, INR 1.51.

Following initial assessment, it was thought his acute renal failure could be secondary to NSAIDs and/or infection, with evidence of thigh swelling and erythema suggestive of cellulitis. He was treated with diuretics and antibiotics. Cardiac biomarkers showed a negative troponin but a high total creatinine kinase, 525 IU/L (0–210 IU/L) and an elevated lactate dehydrogenase, 5324 IU/L (0–500 IU/L). In view of his continuing right thigh pain and swelling, a deep venous thrombosis was also suspected, and he was anti-coagulated. However, a Doppler ultrasound of his right leg showed a patent deep venous system with no evidence of thrombosis. An abdominal ultrasound showed an echogenic liver with fatty infiltrate and a number of ill-defined hypoechoic areas within the liver, consistent with possible focal fatty sparing or a neoplastic process with evidence of ascites. The kidneys and spleen looked normal. Computed tomography (CT) of the abdomen and pelvis was recommended and arranged.

However, over the next 24 hours as investigations were ongoing, he developed worsening chest pain, became oliguric, and was commenced on hemodialysis. Unfortunately while on dialysis, he had a cardio-respiratory arrest

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and the patient passed away within three days of his admission.

A postmortem examination was then performed. Macroscopic findings included evidence of ascites, and the right psoas muscle was swollen, necrotic, and encased the iliac vein. There was no evidence of bony infiltration. There were bilateral serous effusions in the lungs with congestion. Examination of the heart showed a 50% LAD stenosis. The kidneys had mild surface granularity bilaterally and the bladder mucosa appeared haemorrhagic. The brain had no evidence of hemorrhage, infarct, or neoplasm.

The histological studies of the psoas muscle showed extensive infiltration by a malignant small round blue cell tumor with prominent necrosis. Tumor cells showed positive staining with CLA and CD79 and were negative for AE13, NSE, and CD99. This pattern of immunohistochemical staining is consistent with a B cell lymphoma.

The heart also showed focal myocardial infiltration by tumor with patchy myocardial fibrosis. The lungs had evidence of severe congestion. The liver showed sinusoidal infiltration by tumor, extramedullary hematopoiesis, and mild macrosteatosis, and the spleen parenchyma was infiltrated by tumor.

The kidney had pelvic and interstitial infiltration by tumor, as did the bladder mucosa and muscle. A final diagnosis was made of disseminated high grade B cell lymphoma involving the spleen, liver, heart, kidney, bladder, and right psoas muscle.

DISCUSSION

In the United States, approximately 55,000–60,000 new cases of non-Hodgkin lymphoma (NHL) are diagnosed every year.^[3] Older patients can typically present with rapidly enlarging lymph nodes commonly in the neck or abdomen.

Disseminated disease is seen in about 40 percent of patients and is usually defined by extranodal extramedullary infiltration. The most common extranodal sites for aggressive lymphomas are the gastrointestinal tract, skin, bone, sinuses, thyroid, or central nervous system.^[4] Systemic “B” symptoms (fever, weight loss, night sweats) are observed in approximately 30 percent of patients. Survival of untreated aggressive NHL disease is measured in months. Treatment options include a combination of radiation therapy, single agent or combination chemotherapy, immunotherapy, or radioimmunconjugate therapy.^[4] Lactate dehydrogenase (LDH) levels are

used as a measure of tumor cell proliferation and for prognostic purposes.

Radiological screening includes the use of CT and MRI. One of the first reports of the recurrence of large cell lymphoma in skeletal muscle as identified by CT scan was in 1995,^[5] and MRI has also been used to document the recurrence of lymphoma to distant skeletal muscle sites.^[6]

In our patient, disseminated lymphoma manifested itself in an unexpected way. Despite the fact that systemic symptoms are more common as the disease advances or becomes more aggressive,^[4] our patient displayed none of these. The patient had no palpable lymphadenopathy as perhaps expected, and NHL was not considered in this case, as the more common features were absent and he presented only when the malignancy had invaded his psoas muscle, with developing necrosis and subsequent clinical signs of psoas pathology.

This man presented with severe pain, swelling, and erythema of his right leg and thigh. In retrospect, his elevated LDH was suggestive of the underlying pathology. While NHL is not uncommon, skeletal muscle involvement is rare. Given the atypical characteristics of this case, it highlights the need for clinical vigilance of a condition that can be unpredictable in its presentation.

DECLARATION OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

REFERENCES

1. Seltzer SE, Jochelson M, Balikian JP. Organ envelopment in lymphoma visualised by computed tomography. *Clin Radiol*. 1986 Nov;37(6):525–529.
2. Masaoka S, Fu T. Malignant lymphoma in skeletal muscle with rhabdomyolysis: A report of two cases. *J Orthop Sci*. 2002;7(6):688–693.
3. American Cancer Society. *Cancer facts and figures 2002*. Atlanta, Ga.: American Cancer Society; 2002.
4. Ansell SM, Armitage J. Non-Hodgkin lymphoma: Diagnosis and treatment. *Mayo Clin Proc*. 2005 Aug 2005;80(8):1087–1097.
5. Lam WM, Bergman JW, Chan AT, Leung WT. A rare site and appearance for lymphomatous recurrence. *Clin Oncol (R Coll Radiol)*. 1995;7(5):332–333.
6. Connor SE, Chavda SV, West R. Recurrence of non-Hodgkin's lymphoma isolated to the right masticator and left psoas muscles. *Eur Radiol*. 2000;10(5):841–843.