

B-Cell lymphoma presenting as mechanical low-back pain with leg pain: the importance of the physical and ultrasound examination of the buttock in patients with low-back and leg pain: a case report

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Malignancies are an important, although rare, cause of back pain which must be a consideration in patients with certain historical factors, or in patients who do not respond to treatment. This case report emphasizes the importance of performing a thorough examination of any unexplained complaint of low back, buttock or hip pain, the need for continual re-evaluation and modification of the initial diagnosis, and the importance of diagnostic ultrasound when clinically indicated. The decision to refer the patient for further evaluation, including medical imaging techniques, may not become apparent until a regimen of care has been provided and a follow-up exam performed.

A case report is presented in which a clarification of the patients symptoms and a thorough re-evaluation following a regimen of conservative chiropractic care led to a referral for diagnostic ultrasound imaging studies and ultimately the diagnosis of B-Cell lymphoma. (JCCA 2001; 45(2):81-85)

KEY WORDS: B-Cell lymphoma, mechanical low back pain, buttock pain, ultrasound, chiropractic.

Même s'il s'agit d'un facteur rare, les malignités sont une cause importante de douleurs rachidiennes qui doit être prise en considération chez les patients présentant certains antécédents ou chez les patients réfractaires au traitement. Cet exposé de cas souligne l'importance d'un examen complet de toute plainte inexpliquée d'une douleur lombaire ou d'une douleur aux fesses ou aux hanches, le besoin d'une réévaluation et d'une modification continues du diagnostic initial et l'importance d'une échographie, si cliniquement indiquée. La décision consistant à référer un patient à un spécialiste pour une évaluation plus poussée, y compris les techniques d'imagerie médicale, peut ne pas sembler apparente avant la dispense de soins et la réalisation d'un examen de suivi.

Un exposé de cas apportant des éclaircissements sur les symptômes des patients et une réévaluation approfondie après une batterie de soins chiropratiques conservateurs a donné lieu à une orientation vers un spécialiste pour des études échographiques diagnostiques et, pour finir, le diagnostic d'un lymphome B. (JACC 2001; 45(2):81-85)

MOTS CLÉS : lymphome B, douleur lombaire mécanique, douleur des fesses, échographie, chiropraxie.

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Introduction

Non-Hodgkin's lymphomas (NHLs) are a heterogeneous group of lymphoproliferative malignancies.¹ Each group differs in their pattern of behavior and responses to treatment. Like Hodgkin's disease, NHLs originate in the lymphoid tissues and can spread to other organs but, unlike Hodgkin's disease, NHLs has a far greater predilection to disseminate to extranodal sites most commonly the liver, spleen and bone marrow.¹⁰ The most common lymph nodes involved are the cervical and the axillary lymph nodes followed by the inguinal, femoral, iliac and mediastinal lymph nodes.¹⁰ The majority of patients with NHL are between 20 and 40 years, 50% of the cases occur below the age of 40. There appears to be a 2:1 male prevalence.¹¹ The NHLs are divided into two prognostic groups: The indolent lymphomas and the aggressive lymphomas. The indolent types of NHLs have a relatively good prognosis while the aggressive types have a poorer prognosis. With modern treatment, the overall NHLs survival rate is approximately 50% to 60%. Although in certain asymptomatic patients indolent NHLs treatment may be deferred until the patient becomes symptomatic, in all cases of aggressive NHLs treatment must be immediate.²

The treatment selected for patients with NHLs is dependent on the stage of the disease. The Ann Arbor staging system is commonly used for patients with NHLs. There are 4 stages in this system I, II, III, IV. These adult NHLs can be subclassified into A and B categories. A is for those with poorly defined symptoms and B is for those with well-defined generalized symptoms. Patients with any of the following symptoms are given a B designation.

- Unexplained loss of > 10% of body weight in the 6 months before diagnosis.
- Unexplained fever with temperatures above 38°C
- Drenching night sweats.

The stage of the NHLs is determined by the number and locations of lymph node regions or extralymphatic organs involved. A number of other factors that are not included in the staging system but that are important for prognosis include age, performance status, tumor size, lactate dehydrogenase values and the number of extra nodal sites.^{3,4}

Diffuse large B-cell lymphoma, an aggressive NHL, is the most common of the NHLs, comprising 30% of diagnosed cases.⁵ Most patients present with local and sys-

temic symptoms including fever, night sweats, weight loss and most develop rapidly enlarging masses. The vast majority of patients with localized disease are curable, however, patients with advanced disease have an approximately 40% cure rate.^{6,7}

Case report

A 62-year-old female of Indian origin presented to her chiropractor complaining of low back pain radiating into her right buttock and posterior thigh for the past 8 months. She had a verbal complaint of "low back pain", which, when drawn on a pain diagram and pointed to on the body, was actually located to the right buttock. This pain began insidiously and was worse towards the evening. The pain occasionally radiated to the leg and ankle, it was progressively worsening and aggravated by walking and relieved with extension exercises. She described the pain as sharp and stabbing. Her past medical history was remarkable for malaria, vitiligo and caesarean for breach pregnancies. In the eight months prior to consulting this office, the patient had been seen by a number of general practitioners and was sent for plain film x-rays of her right hip and femur that revealed no bony or soft tissue abnormality. CT scan of the lumbar spine (done 5 months prior to consulting the chiropractor) revealed an L5/S1 central right disc herniation with S1 impingement. There was no spinal stenosis. The patient stated that at no time was the area of chief complaint palpated during the examinations.

Upon examination the patient had a slow antalgic gait towards the left. She had good strength (5/5) in her lower limbs with a diminished right Achilles (S1) deep tendon reflex. Her active lumbar spine range of motion was decreased by 25% in all ranges of motion due to pain in the buttock. The straight leg raising was 90° bilaterally and did not reproduce her buttock pain. Her hip ranges of motion were full and pain free except for internal rotation on the right which was markedly reduced. Gaenslen's test (supine, ipsilateral hip extension with concurrent contralateral hip flexion) reproduced the chief complaint of right buttock and thigh pain. A localized area of peau d'orange was observed on the right buttock. Palpation of the right buttock revealed a severe spasm and hypertonicity of the gluteal and piriformis muscles. Digital pressure over the sciatic notch reproduced the patient's chief complaints. There was no superficial dimpling noted. Palpation of the sacroiliac joints revealed reduced segmental motion in the



Figure 1 Sagittal view of right buttock showing collection of fluid in a deep-seated ill defined mass 9.6 cm × 5 cm in the gluteal muscle.

posterior to anterior (PA) direction on the right. The left sacroiliac joint was not reduced in motion but was tender to PA pressure.

A provisional diagnosis of chronic piriformis myofascial pain syndrome with associated sacroiliac joint dysfunction was made. Differential diagnosis included right L5/S1 disc bulge with S1 nerve root compression. This patient underwent 2 weeks of conservative chiropractic care. Treatment consisted of soft tissue therapy, trigger point therapy, PNF stretches and gentle side posture spinal

manipulation of the pelvis. Following the treatment regimen she experienced only “some improvement” with respect to her buttock pain and was able to increase the time between medication doses. A re-evaluation of her complaint revealed no change to the initial examination findings except for a reduction of the right gluteal and piriformis muscles hypertonicity and spasm.

Due to slow progress and localized area of peau d’orange in the right buttock the patient was referred for a diagnostic ultrasound of her right buttock. The ultrasound



Figure 2 Transverse view of right buttock showing the soft-tissue mass in the gluteal muscle.

study revealed a deep-seated soft tissue low echogenic, ill defined mass 9.6 cm long by 5 cm in diameter in the midst of the gluteal muscles (see Figures 1 and 2). The impression was that of a possible abscess or a lipoma for which the patient was sent for a CT evaluation and biopsy. A directed biopsy thru CT scan confirmed a large B cell non-Hodgkin lymphoma grade IVA. Subsequent chemotherapy and radiation therapy treatments proved unsuccessful in this case.

Discussion

The above case describes a common scenario seen in a

chiropractor's office, that is, a patient with low back, buttock or leg pain who has had repeated negative tests and procedures with no relief of symptoms.

This case presentation emphasizes three important points:

- 1 The examination of the buttock should be a part of the generalized assessment for patients presenting with unexplained chronic low back, buttock and thigh pains regardless of other practitioners' findings.
- 2 A thorough re-evaluation should be performed when clinically indicated either due to poor treatment

progress or new complaints.

- 3 If an abnormality of the buttock is suspected, a diagnostic imaging technique such as ultrasound should be performed so as not to delay diagnosis and/or treatment.

G.S. Hoffman et al.⁸ outline helpful suggestions for the examination of the buttock region. Their experience indicates “that the instruction of primary care physicians in how to perform a proper examination of pelvis soft tissue structures has been neglected”. It becomes apparent that chiropractors, who are leaders in the assessment and treatment of soft tissue injuries, must be diligent in this area. With respect to buttock pain, the practitioner should keep in mind that patients often refer to their buttock region as their low back and/or hip.⁸ The use of pain diagrams or asking the patient to point to their area of chief complaint helps to clarify this dilemma.

In this case, the patient had a poor response to chiropractic treatment. She had a total of six visits in two weeks. She experienced only a mild decrease in her pain and muscle hypertonicity. It was decided to send her for an ultrasound examination of her buttock at this time. Ultrasound was chosen over plain film x-ray, MRI and CT scan for a variety of reasons. Firstly, prior plain film radiographs revealed no bony or soft tissue masses. The second reason was the ease and rapidity of obtaining the results by using ultrasound. The mass was instantaneously seen on the screen. Furthermore, the patient did not have to wait weeks (if not months) for an appointment for a repeat CT scan or MRI. Another important factor in deciding to use ultrasound was the cost – a fraction of the cost of an MRI or CT scan. Had the ultrasound examination of the buttock not shown a mass, the patient would have been recommended to continue another two to four week course of conservative chiropractic treatment. If there had been no improvement at that point, a referral for another opinion would have been sought-out.

Diagnostic ultrasound is not frequently used for the diagnosis of musculoskeletal injuries and lesions because of the ease and accuracy of other modalities that are available such as plain film x-ray, CT scan and MRI.⁹ Diagnostic ultrasound is frequently used to diagnose soft tissue lesions in the abdomen and pelvis. It is a noninvasive, cost effective diagnostic modality that has been used widely in clinical practice to identify diseases of various organs in the body. Its usage has significantly increased during the

last decade due to the steadily increasing sophistication in the development of better equipment and real time imaging. Diagnostic ultrasound may be considered in musculoskeletal cases involving soft tissues. It provides a safe, cost-effective and rapid means to rule out and diagnose pathology in many soft tissues including muscles.

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