SOMETIMES THEY MAY BE ZEBRAS: HERPES ZOSTER OF THE L2 SPINAL NERVE

A Case Report

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Abstract: This case report describes a relatively uncommon presentation of herpes zoster affecting the cutaneous distribution of the L2 spinal nerve. The coexistence of a previous history of leg pain, cortical thickening of the femoral shaft on plain film x-ray examination, and the absence, at the time of examination, of the tell tale rash of herpes zoster provided the clinician with a diagnostic challenge. Furthermore, this case stresses the importance of a thorough neurological and orthopaedic examination as well as careful visual inspection of the painful region.

Key Indexing Terms: Herpes zoster, spinal nerves, chiropractic, spinal manipulative therapy

CASE REPORT

A 58 year old female was referred by her medical practitioner for the treatment of left leg pain. The pain had been intermittent for approximately one year and was dull in character, tending towards an ache, but over the previous four days had become acute and unremitting and focused over the anterior thigh. The pain was severe enough to disturb the patient's sleep pattern and she complained of exquisite tenderness to even light touch in the left mid anterior thigh. There were no aggravating factors, however, partial relief of the pain could be gained by lying supine and partially flexing the hip and knee of the affected leg. The patient denied any changes in bladder or bowel function. The patient's previous medial history was unremarkable except for a period of cervical spine pain the previous year, major bladder surgery in 1976 and several urinary tract infections over the previous three years.

Physical examination of the lumbar spine revealed severe tenderness to palpation over the mid to lower lumbar spinous processes but there was no obvious paravertebral muscle spasm. Examination of lumbar spine motion revealed all ranges to be within normal limits and pain free except for moderate restriction of backward extension. Kemp's test, bilaterally, produced mild to moderate low back pain without radiation. Straight-leg-raising was 75° bilaterally and Slump test was negative. Femoral nerve stretch testing on the left exacerbated the anterior thigh pain but the patient could tolerate full knee flexion. Testing of the lower limb deep tendon reflexes revealed a depressed left achilles reflex which was graded at +1, while both patella and the right achilles reflexes were graded at +2. Sensory testing revealed an area of hyperaesthesia over the mid anterior thigh to both pin prick and light touch. All further orthopaedic testing was considered unremarkable.

Physical examination of the left hip revealed restriction of flexion as well as internal rotation with both movements producing left groin pain. Otherwise all other hip ranges of motion and orthopaedic testing were considered unremarkable.

Plain film x-ray examination of the lumbar spine, pelvis and hip joints was performed the same day. There was a mild scoliosis of the lumbar spine, convex to the right. The intervertebral disc spaces were well maintained. Small osteophytes were present at the L2/3 and L3/4 levels, anteriorly. No other significant boney abnormality was detected in the lumbar spine. Mild degenerative joint disease was present in both hip joints with slight narrowing of the joint spaces superiorly. The sacroiliac joints were considered normal. A smooth periosteal reaction, of unknown aetiology, was evident in the medial proximal femoral shaft on the left without evidence of bone destruction and a nuclear bone scan was suggested to eliminate any sinister pathology.

A triple phase examination of the upper femora and pelvis was performed the following day and revealed no abnormal uptake or asymmetry and the area of cortical thickening of the left femoral shaft was considered to be of no significance.

A provisional diagnosis of a left sided L2/3 intervertebral disc lesion was made and the patient was treated with hot moist packs, soft tissue massage and spinal manipulative therapy. The patient was rescheduled for further treatment three days later.

On review her pain symptoms had significantly improved but the patient noticed a vesicular type rash over the region of the left mid anterior thigh. The appearance of the rash was consistent with the vesicular type eruption associated with herpes zoster, which would explain the exquisite tenderness. The patient was therefore referred back to her medical practitioner for appropriate treatment.

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DISCUSSION

Herpes zoster, or 'shingles', is caused by the varicella-zoster virus (VZV). The virus is a member of the herpes virus family (1). VZV is also responsible for varicella (chickenpox). Following a primary varicella infection, the virus localises in a spinal ganglion, most likely within the satellite cells which surround and support the neurones (2). Here the virus remains in a latent state, and the period between primary infection and herpes zoster may be many years. It is not clear exactly what causes reactivation of VZV, but it has been suggested that the virus is suppressed by a low level of circulating antibodies, and when this natural cycle is interrupted the virus multiplies in the ganglionic nerves. This interruption may occur due to traumatic tissue injury, immunosuppressive states or in certain diseases, eg. cancer, tuberculosis (1). The virus then causes extensive damage within the ganglion, involving many neurones, and passes along the nerve fibres to infect the skin. This series of events leads to pain in a particular dermatome, followed by an outbreak of vesicles in the region. The onset of pain usually precedes the lesions by 48 to 72 hours (2,3), although, up to three weeks has been reported (4). It is this prodromal stage that poses the diagnostic dilemma to the clinician, because the radicular pain, and possible motor weakness, may mimic other clinical conditions including disc herniation and tumour infiltration (4).

The reported incidence of herpes zoster is 3 per 1000 people per year (1). It is seen most commonly in the elderly, with an increasing frequency of the disease occurring past the forth decade (5). Of the 50 to 60 year age group, 1% are affected annually, with the incidence climbing rapidly thereafter (6).

Vesicles are confined to 1 to 3 dermatomes supplied by the particular sensory nerve affected (3). Vesicles usually arise on the trunk, with dermatomes T5 to T10 being most frequently involved, accounting for more than two thirds of all cases (7). Motor neuron involvement can occur in 1 to 5% of patients.

A brief review of the literature revealed a number of cases where, during the prodromal stage of the disease, the patient was mistakingly diagnosed as having nerve root irritation due to a disc lesion (4,8,9). Although a relatively uncommon disease, herpes zoster must be included in the differential diagnosis of a patient presenting with pain localised in a dermatome.

CONCLUSION

Herpes zoster, although not common, is not an unusual clinical presentation to be encountered by chiropractors and other health professionals treating musculoskeletal symptoms. Diagnosis is usually only made after the onset of the vesicular rash and during the latent period the clinician maybe be misled into making a hasty and erroneous diagnosis. The coexistence of other musculoskeletal signs and symptoms may also often confound the diagnosis. Sometimes when you hear hoof beats it may be necessary to look for zebras rather than horses.

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