

Case studies

A pain in the back, or a pain in the bum? - Piriformis syndrome versus sciatica

Belinda Krechman B.H.Sc Clinical Myotherapy; Bodyfocus Myotherapy, Patterson Rd, Bentleigh, Vic 3204; belindakrechman@hotmail.com

The following two case studies from a clinical myotherapy practice are described to distinguish between piriformis syndrome (PS) and lumbar radicular leg pain (sciatica). The differences in etiology and symptoms will be outlined as well as the administered treatments. Patient identity has been changed to preserve confidentiality.

1. “Miles” – male aged 65

History and presentation: This patient presented with lower back pain (LBP) and stiffness with left buttock pain and referred pain down the left leg to the lateral malleolus. He reported that he had suffered a bout of gout in his foot about 2 weeks earlier which had settled with the use of anti-inflammatory medication. The LBP and stiffness had been present for at least 20 years. His occupation mainly involved sitting at a desk but he had some recreational physical activity including walking and playing golf.

On examination the lumbar active range of movement (LxAROM) was appropriate for age and symptoms were aggravated by bilateral lumbar lateral flexion and forward flexion. There was a positive left lumbar quadrant sign. On palpation there was significant tenderness in the quadratus lumborum (QL), piriformis and gluteus medius muscles and there was subjective clinical hypomobility at the L1-5 facet joints.

Treatment of this patient involved deep tissue massage (DTM) of the lumbar spinal muscles, gluteal muscles and Iliotibial band, dry needling to the piriformis and gluteus medius muscles and grade 2 lumbar unilateral vertebral mobilisation (UVP on the lumbar facet joints).

During treatment the dry needling produced a significant local twitch response, with the patient describing pain down the left leg to the left lateral malleolus. Post-

treatment the patient reported less pain with Lx AROM with an increase of about 15 degrees in lumbar lateral flexion and forward flexion. There was also less pain down the left leg during flexion testing.

On review the following week, he reported that his LBP was still present but overall had decreased. The left buttock and referred leg pain had largely abated. He reported that his intake of prescription analgesics had reduced to only two days in the week following treatment, compared to use every day previously. Examination revealed improved LxAROM compared to the initial consultation and treatment as well as decreased pain sensitivity during palpatory examination.

Further treatment involved DTM of lumbar spinal, gluteal and piriformis muscles, L1-5 facet mobilisation and dry needling to the piriformis and gluteus medius muscles.

2. “Jan” – female aged 47

History and presentation: This patient presented with pain mainly in the left gluteal region but she also reported some pain in the posterior thigh. The symptoms had been present for a number of years and were aggravated after physical activity such as long walks. She also complained of cervical pain and stiffness.

On examination this patient exhibited restricted hip external rotation, and there was subjective clinical tightness of the gluteal muscles. Hypomobility also seemed to be present at the L1-5 lumbar facet joints.

Treatment involved DTM of the lumbar and gluteal muscles, dry needling of gluteus medius and piriformis muscles, and mobilisation of the lumbar facet joints (UVP grade 2).

On review after one week, the patient reported a significant reduction in the gluteal and hamstring pain. She stated it

was “the best she had felt in years” and that she had four consecutive days without pain. Some mild gluteal pain had returned in the 2-3 days prior to follow up treatment but the posterior thigh pain was still absent.

Further treatment involved DTM of the lumbar and gluteal muscles as well as dry needling to the piriformis and gluteus medius muscles combined with lumbar facet mobilisation. There was still a considerable amount of subjective clinical muscle tightness in the gluteal muscles; however there was a decrease in the pain reported by the patient during palpatory examination.

On further review, at two weeks after the initial appointment, the pain symptoms had continued to decrease, there was less pain associated with walking and she was generally feeling that her activities were less restricted.

She was given further treatment on three occasions at weekly intervals but further planned treatments were interrupted by lengthy periods of non-attendance which has possibly impaired further resolution. However, she continues to attend irregularly for treatment and reports her gluteal pain symptoms are more tolerable than previously and the posterior thigh pain has largely resolved.

Comments

Piriformis syndrome (PS) is seen on a regular basis in a clinical myotherapy practice. When taking the history, patients will state that they have “sciatica” with symptoms that have often been present for several years.

There will commonly be a complaint of generalised LBP but the pain, usually unilateral and is more concentrated in the gluteal region. Pain in the hamstring area is also common and it can be referred down to the ankle.

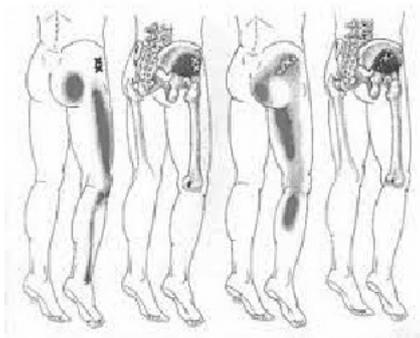


Figure 1. Piriformis syndrome pain pattern¹

PS has been defined as a neuromuscular condition characterised by hip and buttock pain.² This syndrome can be easily overlooked clinically as it has a similar presentation to other pathologies such as lumbar spinal nerve root impingement, sacral or innominate dysfunction and trochanteric bursitis. It is theorised to occur when the sciatic nerve becomes compressed by the piriformis muscle but exactly why this compression occurs is uncertain.

Regardless of the uncertain etiology, and as a consequence of compression, pain can thus be referred down the leg in the distribution of the sciatic nerve.³ Whereas sciatica from spinal causes can have a similar distribution of pain, patients will tend to describe leg pain as more of a “sharp” or “stabbing” or “burning” nature, rather than as an “ache” that is more typical of PS. Descriptive terms, along with any associated distal pins and needles or numbness can be used to suspect a lumbar neurological impingement cause.

Lumbar spinal radicular pain is usually associated with pathologies including herniated lumbar discs, spinal stenosis, spondylolisthesis and rarer causes such as benign or malignant tumours.⁴

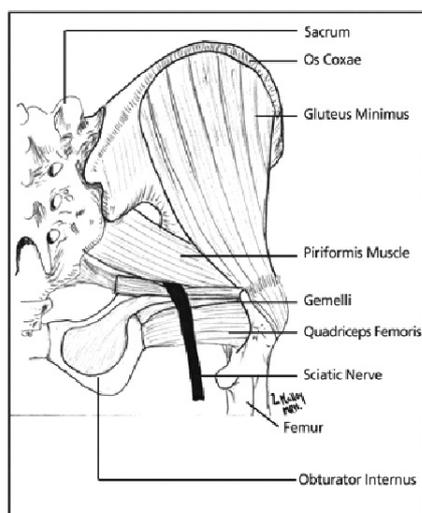


Figure 2. Gluteal region muscles and path of sciatic nerve²

Clinically it is important to distinguish between PS and sciatica as the former is more amenable to myotherapy treatment, as was described in the above two cases. Using different imaging modalities such as ultrasound or MRI the two conditions may be differentiated but in a clinical setting without imaging, by taking a detailed patient history and by examination of the patient using clinical tests such as a slump test, straight leg raise, and dermatomal assessment, a lumbar cause rather than PS can be considered as being more likely to be present. Often a trial of myotherapy treatment will be offered to the patient anyway as clinical differentiation between the two conditions can be difficult.

In the above case studies, both patients presented with LBP and gluteal pain with referral into the hamstring area. Clinical assessment did not favour a spinal etiology and treatment was directed to the PS with good patient outcomes.

References

1. Travell J, Simons D. *Myofascial pain and dysfunction. The trigger point manual: the lower extremities*. Philadelphia: Lippincott Williams & Wilkins, 1993.
2. Boyajian-O’Niell LA, McClain RL, Coleman MK, Thomas PP. Diagnosis and Management of Piriformis Syndrome: An Osteopathic approach. *J Am Osteopath Assoc* 2008; 108: 657-64.
3. Hopavian K, Song F, Riera R, Sambandan S. The clinical features of the piriformis syndrome: a systemic review. *Eur Spinal J* 2010; 19(12):2095-2109.
4. Koes BW, van Tulder MW, Peul WC. Diagnosis and treatment of sciatica. *Br Med J* 2007; 334(7607):1313-7.

Editor comment

Piriformis syndrome is a controversial diagnosis in musculoskeletal medicine, with some rejecting it as a distinct entity. However, some patients do seem to have buttock and leg pain that is relieved by ultrasound-guided local anaesthetic injection into the piriformis and there are other patients who report relief of symptoms by deep tissue massage and stretching. There have also been published reports of the use of botulinum toxin with some positive clinical effect.¹

It is interesting to follow the assessment and treatment provided in the above two cases by this myotherapist and the results for both patients seems to have been beneficial.

1. Kirschner JS, Foye PM, Cole JL. Piriformis syndrome, diagnosis and treatment. *Muscle Nerve* 2009;40(1):10-8.