Case Report

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Piriformis Syndrome a Common Cause of Buttocks Pain with Radiation to Lower Limb

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Abstract

Piriformis muscle is a muscle of gluteal region. The Piriformis syndrome is caused by compression of sciatic nerve by the muscle as it passes through sciatic notch. The pain of Piriformis syndrome is neuropathic and is often confused with pain of prolapsed intervertebral disc. We report a case of chronic pain of one and a half years treated by giving an ultrasound guided injection of local anaesthetic and steroid.

Keywords: Piriformis; sciatic nerve; Piriformis syndrome; neuropathic ultrasound; local anaesthetic; steroid.

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Introduction

Piriformis syndrome is caused by compression of the sciatic nerve by the Piriformis muscle as the nerve passes through the the sciatic notch. This entrapment neuropathy manifests as pain, numbness, paraesthesia and associated weakness in the distribution of sciatic nerve. It often begins with severe pain in the buttocks that radiates to the lower extremity and foot. Here we report a case of severe pain and heaviness in buttocks with radiation to foot [1,2].

Case report

A 28 years old male patient a computer operator with long sitting hours presented with severe pain and stiffness in left buttocks and leg for one and a half years after trauma, he was injured in a road traffic accident in March 2017. He was unable to walk on the left leg because of pain and weakness. He also had tingling sensation and numbness in the left leg. The pain also increased on sitting and his legs became numb after sitting for even 10 min. His physical examinations showed a positive straight leg raising test, FAIR test (flexion, addiction and internal rotation of hip) was positive and hyperalgesia in left leg. He also had tenderness over the left buttocks on deep palpation. He had no motor or sensory deficit. All routine blood investigation were normal. He was advised MRI lumbar spine which was normal. His Visual analogue score (VAS) was 8/10. He had no other systematic illness and no addiction. The patient is a non smoker and did not take alcohol. He had been taking analgesics and physiotherapy. He was taken to operation theatre for injection of local anaesthetic and steroid into the Piriformis muscle under ultrasound guidance. With all resuscitative measures taken an intravenous catheter 18 G in

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Image 1:

place. The patient was put on prone position with the affected side cleaned and draped. A Curvilinear low frequency ultrasound probe was positioned with its lateral side medial to the greater trochanter and medial side lateral to ischial tuberosity. The probe was then moved cephalad to identify the gluteus maximus muscle, Piriformis muscle and sciatic nerve were identified. Using a In plane technique a 10 cm 25 Gauge needle was inserted in the Piriformis muscle and taking precautions of not touching the sciatic nerve 40 mg of triamcinolone and 5 ml of 0.25% bupivacaine was injected. The patient was stable during and after procedure. His pain scores and stiffness decreased immediately was able to flex his hipjoint without pain. He was sent home after 2 hours of observation. He was advised simple analgesics and muscle relaxants for a week and physiotherapy was started after a week. He was followed up after a week and monthly for 6 months. He remained asymptomatic and then was lost to follow up [3].

Discussion

Piriformis muscle is a deep muscle of gluteal region deeper to gluteal maximus and medius muscle. It's origin is in three digitations from front of sacrum, gluteal surface of ilium and anterior capsule of the sacroiliac joint and extends till the the insertion at greater trochanter of femur bone [4]. The sciatic nerve is in close relation to the Piriformis muscle runs either deep to it or through it. Piriformis syndrome is caused by irritation or compression of sciatic nerve as it passes through the sciatic notch. This entrapment neuropathy will present as pain in buttocks, paraesthesia, numbness and weakness in the distribution of sciatic nerve [5,6,7]. The main symptoms are pain in buttocks with sitting, standing or lying, pain, tingling numbness radiating to the affected limb, pain when rising from sitting to standing positions. The patient may complain of difficulty in walking or alteration of gait. It may lead to development of pain in sacroiliac or hip joint. The symptoms of Piriformis syndrome usually develop after direct trauma to hip or gluteal region, repetitive motions of hip and lower extremity or continuous pressure on Piriformis muscle. Rarely there can be an occult tumour or congenital anomaly of Piriformis muscle or sciatic nerve. On physical examinations on inspection there may be signs of trauma or wasting of muscle. On palpation there can be tenderness over the sciatic notch. Tinel's sign often may be found on percussion over the sciatic nerve as it passes beneath the muscle. Various provocative tests like Lasegue test (localised pain when pressure is applied over Piriformis muscle with hip flexed at 90 degrees.), Freiburg test (pain on passive internal rotation of hip), FAIR test Piriformis syndrome provocative test (patient in modified sims position with affected side superior hip flexed at 50 degrees, pelvis stabilised and affected leg is pushed down.) straight leg raising test or SLR may be positive. Lifting or bending at the waist increases the pain in most patient with Piriformis syndrome [8]. There may be wasting of gluteal muscles in advanced stage. The differential diagnosis can be prolapsed or herniated disc, hip arthritis, sacroiliac joint dysfunction spinal canal stenosis.

The treatment of Piriformis syndrome is multimodal including analgesics, anti neuropathics antidepressant, Muscle relaxants, stretching exercises and physiotherapy. Patients who do not get relief by conservative management are taken

for intervention such as injection of steroid and local anaesthetic under ultrasound, fluoroscopy, CT or Electromyographic guidance [9,10].

Complications of procedure are rare if done under guidance but can be sciatic nerve injury, infection, hematoma.

Conclusion

Piriformis syndrome is a neuropathic condition which is usually diagnosed after excluding other conditions and often missed. Some times it coexists with other conditions. It should be kept in mind when looking for causes of back pain and the provocative tests should be done specially with a unilateral pain. Various pharmacological therapies and Physiotherapy should be done and Piriformis injection with local anaesthetic and steroid under fluoroscopy or ultrasound guidance is a good approach to treat this difficult and often neglected cause of pain and avoids spine surgery.

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