

# Abnormal Venous Plexus around Sciatic Nerve, a Rare Cause of Piriformis Syndrome

Yashavantha Kumar C<sup>1</sup>, Satish Shervegar<sup>2</sup>, Ravi Kumar<sup>3</sup>

<sup>1</sup>Assistant Professor  
M S R Medical College  
Bangalore, India  
kumyshwanth@gmail.com

<sup>2</sup>Professor and HOD  
M S R Medical College  
Bangalore, India

<sup>3</sup>Junior Resident  
M S R Medical College  
Bangalore, India  
k2.drravi@gmail.com

**Abstract:** Piriformis syndrome is uncommon clinical condition characterized by paresthesias and pain in the buttock that commonly radiate into the posterior thigh resulting from sciatic nerve entrapment at the greater sciatic notch. Piriformis syndrome is usually caused by sciatic nerve entrapment at the greater sciatic notch. It is usually under diagnosed because of lack of reliable clinical and radiographic features. Mechanical cause for neuropathy in most of the cases reported in the literature was hematoma formation and subsequent scarring around the nerve following blunt injury to the gluteal region. The other rare cause of compression of the nerve are myositis ossificans of piriformis muscle, aneurysm of inferior gluteal artery, muscular dystonias etc. We report an interesting case of Piriformis syndrome in a 45 year old male in whom there was abnormal venous plexus around sciatic nerve causing compression of the nerve. Patient was treated successfully by excision of the abnormal venous plexus.

**Keywords:** Piriformis syndrome, sciatic nerve, venous plexus.

## 1. Introduction

Piriformis syndrome is characterized by paresthesias and pain in the buttock that commonly radiate into the posterior thigh resulting from sciatic nerve entrapment at the greater sciatic notch. Piriformis syndrome is an uncommon condition characterized by sciatic nerve entrapment at the greater sciatic notch. It is usually under diagnosed because of lack of reliable clinical and radiographic features (1-2). Mechanical cause for neuropathy in most of the cases reported in the literature was hematoma formation and subsequent scarring around the nerve following blunt injury to the gluteal region. We report an interesting case of Piriformis syndrome in a 45 year old male in whom there was abnormal venous plexus around sciatic nerve.

## 2. Case report

A 45 years old male patient presented to us with a pain in the right gluteal region radiating back of the right thigh and leg for three months. He also had tingling sensation extending from low back along right hip, posterolateral aspect of right thigh and calf. Pain was intermittent, dull aching and aggravated by prolonged sitting on examination tenderness present in the gluteal region along course of sciatic nerve. Flexion, adduction and internal rotation of the hip aggravated pain and relieved by lying supine position. There were no neurodeficits distally. Plain radiograph of pelvis with both hips were normal. MRI of right hip showed superior and anterior labral tear with gluteus maximus edema. Nerve conduction study of lower limb was normal. Patient was

treated conservatively with analgesics, rest and stretching exercises. Sciatic nerve was explored through Kocher-Langenbeck approach. Intraoperatively sciatic nerve was covered by Piriformis muscle. Interestingly there was abnormal venous plexus around the sciatic nerve. The abnormal venous plexus was excised and piriformis muscle was sectioned. Post operative period was uneventful. Patient completely recovered from pain and tingling sensation. At six months follow up patient has no recurrence of symptoms.

## 3. Discussion

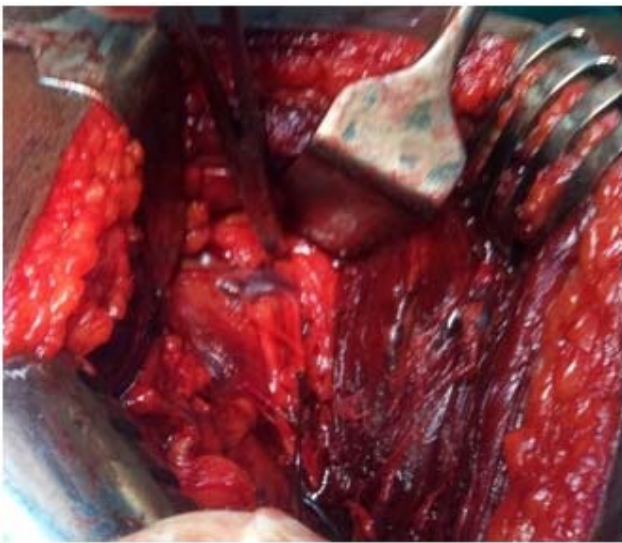
Piriformis syndrome occurrence is underestimated and the diagnosis of piriformis syndrome often is complicated by limited availability of reliable clinical and radiographic tests.

Robinson has been credited with introducing the term piriformis syndrome and describing its six classic findings: (1) a history of trauma to the sacroiliac and gluteal regions; (2) pain in the region of the sacroiliac joint, greater sciatic notch, and piriformis muscle that usually extends down the limb and causes difficulty with walking; (3) acute exacerbation of pain caused by stooping or lifting (and moderate relief of pain by traction on the affected extremity with the patient in the supine position); (4) a palpable sausage-shaped mass, tender to palpation, over the piriformis muscle on the affected side; (5) a positive Lasègue sign; and (6) gluteal atrophy, depending on the duration of the condition.

The course of sciatic nerve is under the Piriformis muscle 90% of the cases in which sciatic nerve distal to the

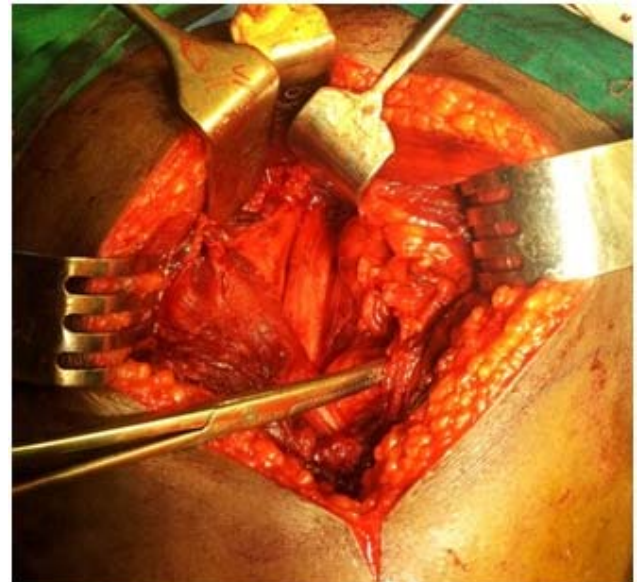
Piriformis muscle that emerged undivided from below the piriformis muscle. In the rest of the cases the sciatic nerve or one of its branches passes through the substance of the muscle. Whenever nerve or one of its branches passes through the muscle, it is more prone for piriformis syndrome.

The most common mechanical cause for sciatic nerve compression is contusion followed by scarring of piriformis muscle. The scarring of the piriformis muscle entraps the sciatic nerve leading to symptoms (3, 4). Other causes of nerve entrapment also have been suggested in the literature like accessory piriformis muscle, myositis ossificans of piriformis muscle and aneurysm of inferior gluteal artery (5-7). In our case sciatic nerve was passing under the piriformis muscle which was normal, but there was a venous plexus around the sciatic nerve which was causing neuropathy (Figure 1).



**Figure 1:** Intra operative photograph showing abnormal venous plexus around sciatic nerve

The abnormal venous plexus around the nerve excised and the piriformis was released (Figure 2).



**Figure 2:** After excision of abnormal venous plexus and release of piriformis muscle.

#### 4. Conclusion

In Piriformis syndrome the most common mechanical cause of neuropathy is the piriformis muscle in the form of contusion and scarring. In our case a venous plexus around sciatic nerve with normal piriformis muscle was the cause for nerve entrapment.

#### References

- [1] Steiner C, Staubs C, Ganon M, Buhlinger C. Piriformis syndrome: pathogenesis, diagnosis, and treatment. *J Am Osteopath Assoc.* 1987; 87:318–323
- [2] Hallin RP. Sciatic pain and the piriformis muscle. *Postgrad Med.* 1983; 74:69– 72
- [3] Benson ER, Schutzer SF. Posttraumatic piriformis syndrome: diagnosis and results of operative treatment. *J Bone Joint Surg Am.* 1999; 81:941–949
- [4] Pecina M, Contribution to the etiological explanation of the piriformis syndrome. *Acta Anat (Basel),* 1979; 105:181–187
- [5] Anita Sen, Rajesh S: Accessory piriformis muscle, an easily identifiable cause of piriformis syndrome on magnetic resonance imaging. *Neurology india,* sep-oct 2011, vol 59, issue 5
- [6] Beauchesne RP, Schutzer SF. Myositis ossificans of the piriformis muscle. An unusual cause of piriformis syndrome: A case report. *J Bone Joint Surg Am* 1997; 79; 906-10
- [7] Papadopoulos SM, McGillicuddy JE, Albers JW. Unusual causes of piriformis muscle syndrome. *Arch neurol* 1990; 47:1144-6