

# Chronic Ischial Apophyseal Avulsion. Surgical Treatment with Achilles Allograft

Santos Ledo Ciro<sup>1</sup> and Rebeca García Barcenilla<sup>2\*</sup>

<sup>1</sup>Sierrallana Hospital, Torrelavega, Spain

<sup>2</sup>Marqués de Valdecilla University Hospital, Santander, Spain

\*Corresponding author: Rebeca García Barcenilla, Marqués de Valdecilla University Hospital, Santander, Spain

## ARTICLE INFO

Received: 📅 October 30, 2023

Published: 📅 November 22, 2023

**Citation:** Santos Ledo Ciro and Rebeca García Barcenilla. Chronic Ischial Apophyseal Avulsion. Surgical Treatment with Achilles Allograft. Biomed J Sci & Tech Res 53(5)-2023. BJSTR. MS.ID.008465.

## Introduction

Hamstring injuries are among the most common injuries in sports. The majority of them happen at the myotendinous junction but a low percentage are avulsions at the proximal insertion. Even though most of them usually respond fairly to a conservative management, some of them will experience chronic debilitating pain and weakness [1,3].

## Objective

We present the case of a 25 years-old male who was diagnosed with a muscle strain of the hamstring as a young athlete.

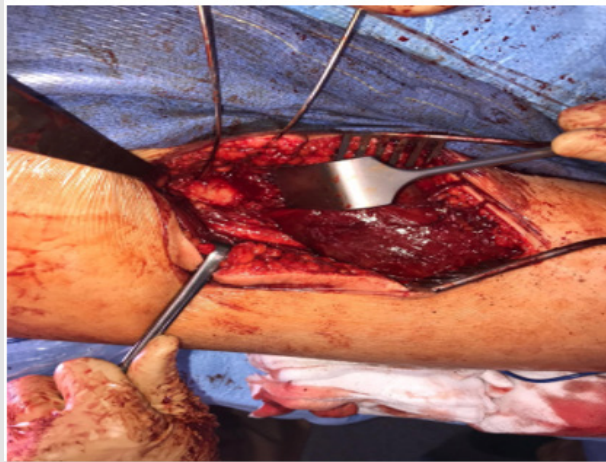
## Material and Methods

A 25-years-old male is referred complaining about functional impairment and inability to perform recreational sports, radicular pain along the sciatic nerve and buttock pain while sitting. He has a history of a pubity muscle strain to the hamstring while practicing sports that was never studied appropriately, Physical exploration demonstrated a palpable painful mass around the ischiatic tuberosity as well as knee flexion weakness on prone position. Patient had a positive Tinel sign around the proximal sciatic nerve but presented no sensory or motor deficit. MRI, CT and simple radiograph study of the pelvis was obtained and the patient was diagnosed with a chronic avulsion of the ischial tuberosity and secondary hypertrophic ossification as shown on (Figure 1). With the diagnosis of a Type 1 (David G. Wood classification) lesion [1] and failure of conservative treatment decision was made for a surgical repair. Under general anesthesia and with the pa-

tient on prone position and “L-shaped” incision was performed on the posterior aspect of the thigh. Direct identification of the sciatic nerve, neurolysis and removal of the scar tissue around was performed; identification with a vessel loop and protection through the rest of the procedure [2] (Figure 2). Attention was paid later to identification of the hypertrophic ossification and avulsion of the hamstring tendons. Removal of the ossification and mobilization of the tendons was performed [4] but a persistent gap remained so decision was made to perform a reconstruction with Achilles allograft.



**Figure 1:** Anteroposterior radiograph at the time of presentation showing large hypertrophic mass at the left ischial tuberosity.



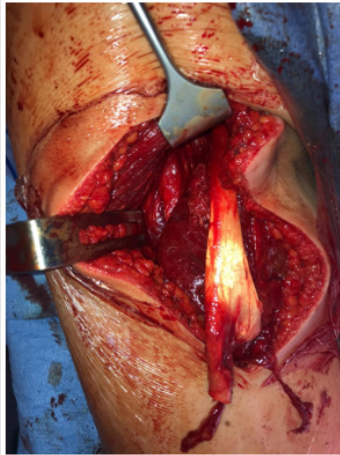
**Figure 2:** Intraoperative picture of the posterior approach. Kirschner wires and Hohmann retractor allowing exposure of the ischial tuberosity. Sciatic nerve can be seen lateral to the muscular belly of the hamstrings.

The ischial tuberosity was first debrided and then the allograft (Figure 3) was secured with a 4.5 mm bioabsorbable implant (Figure 4) [1,2]; afterwards the allograft was sutured to the remains of the proximal hamstring insertion after testing the correct tension (Figure 5). Patient was placed on a pelvic-thigh-hip orthosis on post operative day and was kept on it for 6 weeks, after which progressive movement was allowed. Rehabilitation was started at week 8 with progressive hip and knee motion and strengthening programs. Patient experienced hypoesthesia with a positive Tinel sign on the posterior femorocutaneous nerve [1] since postoperative day 1. At 1 year follow-up patient referred no symptoms of radicular pain or pain while sitting

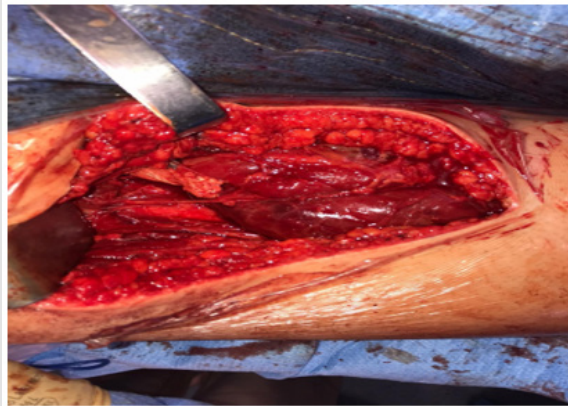
and has been able to return to sports with minimal pain. Although Tinel of the posterior femorocutaneous nerve resolved, persistent discomfort and hypoesthesia remained around the scar. Post operative X-Ray at follow-up show mild heterotopic ossification around the Achilles reconstruction (Figure 6). Most hamstring injuries consist of mild strains of the muscles or myotendinous junction that perform well with conservative management [1]. Apophyseal injuries represent an uncommon form of hamstring injuries that happen on skeletally immature patients [1-3] that deserve particular attention as they can produce chronic impairment due to secondary displacement, hypertrophic ossification and symptoms of radicular irritation [1,4].



**Figure 3:** Allograft Achilles tendon with bone plug at the bottom for osseous attachment.



**Figure 4:** Intraoperative picture of the allograft after insertion at the ischial tuberosity. Blunt retractor on the left shows the deep position of the sciatic nerve.



**Figure 5:** Intraoperative picture showing the final construct with the allograft attached to the ischial tuberosity and suture to the proximal hamstrings.



**Figure 6:** Anteroposterior radiograph of the pelvis at 1 year follow-up. Heterotopic ossification can be seen around the allograft reconstruction.

## References

1. Wood DG, Packham I, Trikha SP, Linklater J (2008) Avulsion of the proximal hamstring origin. J. Bone Jt. Surg. Am. 90 (11): 2365-2374.
2. Ali AM, Lewis A, Sarraf KM (2020) Surgical treatment of an ischial tuberosity avulsion fracture with delayed presentation. J Clin Orthop Trauma 11 (Suppl 1): S4-S6.
3. Gidwani S, Bircher MD (2007) Avulsion injuries of the hamstring origin - a series of 12 patients and management algorithm. Ann R Coll Surg Engl 89 (4):394-399.
4. Sikka RS, Fetzer GB, Fischer DA (2013) Ischial apophyseal avulsions: proximal hamstring repair with bony fragment excision. J Pediatr Orthop 33(8): e72-6.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2023.53.008465

Rebeca García Barcenilla. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



### Assets of Publishing with us

- Global archiving of articles
- *Immediate*, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>