

CASE REPORT

**Snapping knee caused by the thickening of the medial
hamstrings**☆



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KEYWORDS

Snapping knee;
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Dynamic ultrasound

Abstract We report a case of symptomatic subluxation of the semitendinosus and gracilis over the medial condyle of the tibia caused by the thickening of its tendons.

Snapping was reproduced on active extension. Clinical examination and, above all, dynamic ultrasound were the key for the diagnosis because other imaging tests were normal.

Due to failure of conservative treatment with physiotherapy and infiltrations, surgery was undertaken, involving desinsertion and excision of distal 8 cm segment of the semitendinosus and gracilis tendons. At the present time (6 months postoperatively), the patient is symptom-free and has returned to the previous normal life activities.

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PALABRAS CLAVE

Rodilla en resorte;
Pata de ganso;
Ecografía dinámica

Rodilla en resorte interno por engrosamiento de la pata de ganso

Resumen Presentamos el caso clínico de una paciente con rodilla en resorte, sintomática por subluxación de los tendones de la pata de ganso (semitendinoso y grácil) sobre el cóndilo medial de la tibia, debido al engrosamiento de los mismos.

La clínica se reproducía durante la extensión activa de la rodilla por parte de la paciente. Para llevar a cabo al diagnóstico, a parte de la exploración física, la ecografía dinámica fue clave, ya que el resto de pruebas de imagen fueron normales.

Debido al fallo del tratamiento conservador con fisioterapia e infiltraciones, se llevó a cabo tratamiento quirúrgico mediante desinserción y escisión de 8 cm distales del semitendinoso y del grácil. La paciente lleva actualmente 6 meses intervenida y se encuentra asintomática, llevando a cabo con total normalidad sus actividades de la vida diaria.

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Introduction

We say that a joint is snapping when a sudden jerking movement occurs on moving the joint. The most commonly affected joints are: hip, shoulder, elbow and ankle, although cases in the knee have also been described.

We will focus on the knee. This condition is principally due to a defect in the lateral region of the knee (a meniscus cartilage condition,¹ a condition of the femoral biceps and iliotibial band,² intra-articular tumours or ganglion cysts).^{3,4}

This condition may more rarely be present in the medial region of the knee (medial hamstrings).⁵⁻⁹ Few cases are reported in the literature and the majority of them are patients who are sportspeople.

Although aetiology is unclear, several authors state that it may be caused by a congenital malformation or a rupture of the chordal tendons supplementary to the semitendinosus tendon.⁸

Although some patients improve after conservative treatment, it is often unsuccessful and surgical treatment is used.

In this article we present a clinical case of a patient with snapping knee syndrome, with the symptoms being subluxation of 2 of the medial hamstring tendons (semitendinosus and gracilis) on the medial region of the knee at internal tibial condyle level. Based on the literature up to date, this is the first case of snapping knee caused by the thickening of the medial hamstrings to be described in Spain.

Clinical case

Presentation of the case

Female aged 23, with no personal history of interest, who was not sporty and was obese (BMI of 33.7), who presented at the emergency department in July 2013 with a 6-month history of gonalgia in the right knee, after direct trauma, with pain and instability in said knee (she stated there was "whipping and clicking" associated with joint defects which were worse when walking quickly or running). Anteroposterior and lateral X-rays were normal.

The patient was referred to the trauma department in March 2014 on suspicion of anterior cruciate ligament rupture. Physical examination showed no deformities of the knee or leg length differences or muscular atrophy of lower limbs. Joint balance was complete and physical examination was compatible with ACL rupture, with no other findings of interest.

MR scanning was requested which showed the ACL rupture. The patient underwent surgery in December 2014, an arthroscopic anatomical ligamentoplasty with BTB allograft (Achilles tendon) from tissue bank and fixation method with interference screws.

During the rehabilitation period the patient returned for consultation on a snapping in the internal region of the knee when voluntarily extended. Physical examination confirmed a knee with complete, seamless range of movement, but with a palpable clicking in the medial region during complete voluntary extension of the knee.

As the ultrasound was normal we decided to request a dynamic ultrasound scan in real time to observe this condition. The scan revealed a tendinopathy of the medial hamstrings which extended to its insertion in the tibia ("spread from medial hamstrings – semitendinosus and gracilis tendons – over the medial tibial condyle during active extension. Rule out exostosis/osteophyte/osteochondroma"). After review of the previous MR scan no bone injury in the tibia was observed.

Treatment

After unsuccessful conservative treatment with physiotherapy and infiltrations, and due to the functional limitations of the patient, a joint decision was made to proceed with surgery.

The operation was performed in November 2015. During the operation, with the patient under lumbar spine anaesthesia, the snapping knee did not reoccur on passive extension of the knee. Surgical examination revealed no bone injury.

We made an incision of approximately 5 cm in the region of the medial patellar retinaculum, observed a thickening of the fascia which covered the medial hamstrings, and a tapering of the semitendinosus and gracilis tendons. Deinsertion and excision of the same were made distally at approximately 8 cm (Figs. 1 and 2).

The patient was discharged the following day with a compression bandage and controlled mobility.

She went for a check-up 2 weeks after the removal of the stitches and non-snapping of the knee during active extension was confirmed.

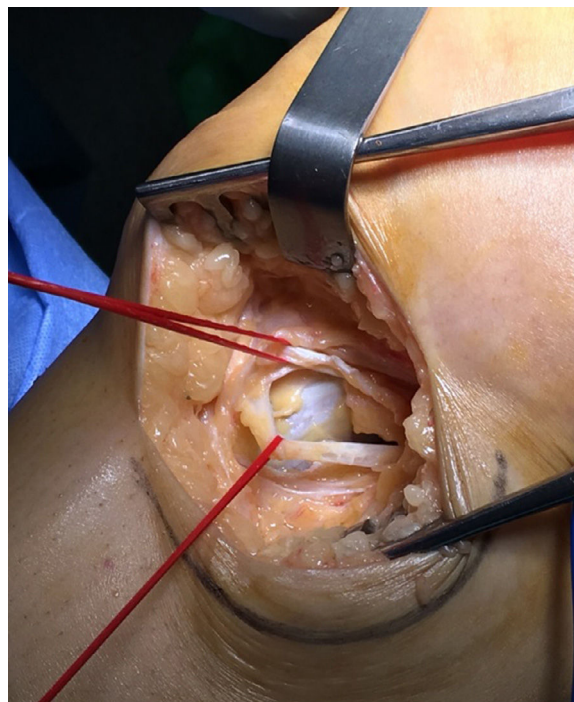


Figure 1 Surgical dissection of the semitendinosus and gracilis tendons.



Figure 2 Surgical specimen of the desinsertion and excision of the tendons.

Results

Six months after the operation the patient is completely asymptomatic, has no problems, carries out her daily activities and the Lysholm preoperative score of 37 points has now risen to 100.

Discussion

In this article we present the case of a snapping knee caused by the thickening of the medial hamstrings. In previous articles this condition had been described in patients who were sportspeople,⁵ whilst in our case the patient was obese and not a sports person. Furthermore, this condition had been described in Americans⁸ and Caucasians⁹ (non Spanish patients), with the result that, based on the literature, this is the first case described in Spain.

Our case is unusual because the instability produced by rupture of the ACL concealed the snapping knee and once the ligamentoplasty (to stabilize the knee) had been performed, the clinical condition of snapping knee syndrome was exacerbated.

From our viewpoint (apart from clinical and physical examination), dynamic ultrasound imaging in real time is key to the diagnosis of this condition.

If conservative treatment (physiotherapy and infiltrations) is unsuccessful a surgical approach may be used. Two

options have been described: deinsertion and excision of the affected medial hamstring tendons,^{5,8-10} and deinsertion of the affected tendons and suture of those not affected.^{6,7} We would recommend the first option as it is more strongly supported in the literature.

Conclusion

As this condition is rare, it is essential that the trauma surgeon has a high diagnostic suspicion based on exploratory details, since standard additional studies (radiography, scan and MRI) may be normal and may give us false hope regarding the absence of any condition if we do not maintain a diagnostic suspicion bias.

Ethical responsibilities

Protection of people and animals. The authors declare that for this research no experiments on human beings or animals have been conducted.

Data confidentiality. The authors declare they have adhered to the protocols of their centre of work on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

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