

# Delayed Repair of Rupture of the Biceps Femoris Tendon - A Case Report

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## Summary

A rare case of an isolated rupture of the biceps femoris tendon at its insertion to the femoral head is presented. Delayed surgical repair has not been previously reported. In this patient, a successful repair was carried out four months after the injury.

**Key Words:** Rupture of biceps femoris tendon, Delayed repair

## Introduction

Spontaneous rupture or avulsions of the biceps femoris tendon is rare. The first case was reported in 1990<sup>1</sup>. Subsequently, four other cases have been described<sup>2,3</sup>. All the patients were seen and treated in the acute phase. Only one patient was treated conservatively with a plaster cast because he refused surgery<sup>3</sup>. Our patient is the first case of delayed presentation and surgical repair to be described.

## Case Report

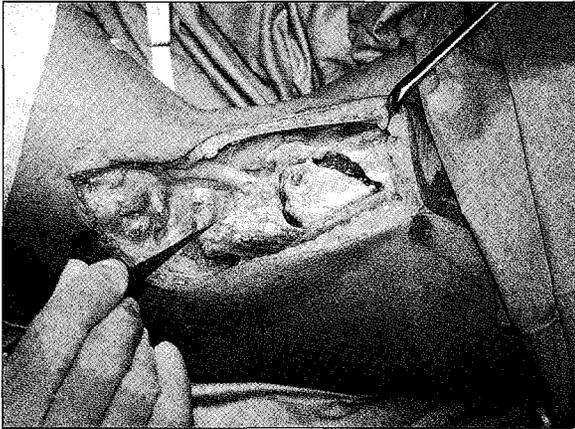
In June 1997, the patient, a 33 year-old male was playing soccer, when, in attempting to kick the ball with considerable force, he missed the ball completely. As the knee straightened into a stretch, he heard a dull "pop" and felt a sudden sharp pain at the posterolateral aspect of the right knee. He had to stop playing immediately. There was no swelling and the pain gradually subsided. He only sought traditional treatment initially.

Four months later, he tried to resume playing football but was unable to do so due to pain and a subjective feeling of weakness. He also had difficulty in standing up from a sitting position; controlling the brakes and accelerator of a car; going down the stairs and carrying heavy weights. It was then that he was first seen in the orthopaedic clinic.

Clinical examination revealed an essentially normal knee joint. The range of movement was full (0 - 130 degrees). There was an absence of the posterolateral skin fold normally produced by the underlying tendon of the biceps femoris and the tendon was also deficient on palpation. There was no longer any tenderness. X-rays of the knee showed no abnormalities.

Surgical repair of the tendon was carried out. The biceps tendon was found to be completely avulsed from the fibular head and was retracted 7cm proximally. The muscle was mobilised. The tendon was then repaired by plicating it with non-absorbable sutures (nylon 2.0) and fixing it to the fibula head through drill holes. This was done with difficulty after a period of sustained traction on the muscle and was only possible with the knee at 80 degrees of flexion. Fractional lengthening was also done by using two incomplete incisions over the tendon at the musculo-tendinous junction. (Figure 1)

Postoperatively the knee was immobilised with a posterior plaster splint at 80 degrees flexion. After two weeks this was gradually extended with cast changes until 15 degrees of flexion was achieved at six weeks at which point unrestricted knee range of motion exercises were started. A persistent discharging sinus was explored at two months. The scar was not adherent to



**Fig. 1. Intraoperative photograph of the ruptured biceps femoris tendon (forceps) with two fractional cuts done. The common peroneal nerve is seen emerging below the tendon.**



**Fig. 2. Clinical photograph 6 months later.**

the surgical repair. No evidence of infection was found and after closure, the wound subsequently healed with no further discharge.

At six months (Figure 2), full range of movement of the knee had been achieved and although the patient had not returned to sporting activities, there was no longer any difficulty in getting up from a sitting position, driving a car or negotiating the staircase.

## Discussion

The mechanism of injury in this patient is similar to that described by Y. Fortems in one of his patients<sup>3</sup>. In missing the attempted kick on the soccer ball, our patient had forcibly flexed his hip and inadvertently extended his knee to a greater degree than intended. This had stretched the hamstrings while they were in contraction. It is also a fact that the biceps femoris straddles two joints and is therefore more prone to rupture. In hurdlers (athletes), there are avulsions of the hamstrings origin at the ischial tuberosity but in this patient, the avulsion was at the distal insertion. A possible reason for the difference could be that in hurdlers, the greatest stretch of the hamstrings comes at the extreme of hip flexion in going over the hurdles. In this patient, the maximal stretch was at the extreme of knee extension when he missed the attempted kick on the ball.

The patient lived in a small village 50km away from the hospital. As medical treatment was not easy to come by, the injury had initially seemed too innocuous to him to warrant a visit to the hospital. After the acute symptoms had subsided, he continued to have significant functional problems of daily living which brought him to our hospital.

Reported biomechanical studies show loss of flexion force after use of the biceps femoris tendon for reconstruction of the quadriceps tendon<sup>2</sup>. The main clinical signs on presentation were an absence of the posterolateral skin fold overlying the biceps femoris tendon as well as a deficiency of the tendon on palpation. This must be specifically sought for in making a diagnosis.

We have shown that it is possible to bridge a gap of 7cm. by using incomplete cuts of the tendon at the musculo-tendinous junction and by flexing the knee acutely. It should be stressed though, that after two weeks, the knee should be gradually straightened out to prevent a flexion contracture. The patient developed a persistent seroma over the operative site. This could have been due to extensive undermining of tissue planes for exposure together with the laxity of the skin overlying the region when the knee was immobilised at 80 degrees. This complication might have been prevented by leaving the suction drain in situ for a longer period.

## CASE REPORT

### References

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