Isolated Semitendinosus Tendon Rupture in Non Athlete

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Isolated rupture of distal semitendinosus is reported rarely. Here, we report a case of 51-year-old previous healthy working man diagnosed with isolated semitendinosus tendon rupture treated successfully by conservative management.

Key Words: Semitendinosus tendon, Isolated injury

Introduction

Hamstring strains are common. They are usually treated by conservative managements with good results. Surgical treatments have been advocated in cases of complete rupture of the proximal and distal attachments. Although rare, distal ruptures of isolated semitendinosus tendon have been reported previously. However, all of these previous reports were based on professional young athletes whom mostly resulted from competitive sports activity. Here, we report a case of 51-year-old previous healthy working man diagnosed with isolated semitendinosus tendon rupture treated successfully by conservative management. The patient was informed that data concerning the case would be submitted for publication, and he consented.

Case Report

A 51-year-old previous healthy working man presented with popliteal area pain. Although he was active, he was not a professional sports player. The pain presented for 1 week. He claimed that the shooting-nature pain developed in medial aspect of popliteal area during stair climbing in knee extension position.

On physical examination, there was a palpable gap along the distal medial hamstring tendons that was accentuated on knee flexion. There was tenderness on palpation along the medial side of the popliteal fossa, which was exacerbated by resisted knee flexion. A full range of knee movement was maintained, and there was no medial joint laxity on valgus straining at 0 and 30 degrees of flexion.

Magnetic resonance imaging (MRI) of the knee was performed. MRI examinations were performed on a 1.5 Tesla MR scanners (GE Medical Systems, Milwaukee, WI, USA) using a phased array knee coil. The MR protocol included coronal, sagittal and
axial images. On coronal spin echo proton density images, the parameters were as followings: TR/TE (3000/41.8), a slice thickness of 3.5 mm, a 4-mm interslice gap, 2 NEX, field of view 16×16 cm, and a matrix of 512×256. On T2 weighted fat saturated images, the parameters were as followings: TR/TE (4000/90.9), a slice thickness of 3.5 mm, a 4-mm interslice gap, 3 NEX, field of view 16×16 cm, and a matrix of 416×256. MRI demonstrated edema, semitendinosus tendon retraction and decreased muscle volume on axial images (Fig. 1).

A nonoperative management with rest, ice, compression, and immobilization was initiated. Crutches were used as needed until independent. This was followed by focused physical therapy to maintain the strength and conditioning of the hamstrings. Strength training was always with isotonic resistance. Treatment modality progressed from walking, fast walking, jogging, and running over a 6-week period. The patient was able to climb stairs stepwise 6 weeks without difficulty.

Sonography performed 12 months post-injury showed that the ruptured tendon had retracted and was tethered to the underlying semimembranosus muscle belly (Fig. 2). Hamstring muscle strength was estimated by Cybex examination which consisted of measuring the hamstring peak torque at two speeds: 60°/s and 180°/s. Relative strength reached 85% compared to the contralateral limb. The initial Lysholm score of 58 improved to 95 at latest follow-up.

Discussion

There have been a few case reports in the English literature regarding the isolated distal semitendinosus tendon rupture. Recently, Cooper and Conway reported the retrospective case series with the results of treatment in professional athletes. However, this is the first report of isolated distal semitendinosus tendon rupture developed in non-athlete ordinary office-working man with injury developed during daily activity.

Because of the rarity, there is paucity of evidence over the best method of managing the injury; whether surgical or non-surgical. Cooper and Conway reported 42% (5/12) of failure when managed initially by nonoperative treatment. However, the failure of non-operative treatment in their study was defined by