

TOTAL RUPTURE OF THE ACHILLES TENDON IN ALPINE SKIER: A CASE REPORT

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Introduction

In alpine skiing two different pathologies that involve the Achilles Tendon have been described (2): the Achilles Tendonitis and the rupture of the Achilles Tendon.

Both pathologies seem to be caused by an increase of the pressure within the ligament that wraps up the Achilles Tendon and that is related to a swollen distal calf muscle.

This situation leads to a circulatory deficit and to a vascular necrosis with subsequent tendonitis and eventually the rupture of the tendon. Suckert and coll. (3) observed an increased number of tendonitis and a decline of the Achilles Tendon rupture among the alpine skiers.

Although the rupture of the Achilles Tendon in alpine skiing does not happen frequently, this kind of injury can occur to professional athletes and also to amateurs, who, willing to go again to ski, need to undergo a long period of rehabilitation. The following clinical case will help explain targets and times for the re-education of a subject with peculiar characteristics.

Case Report

A male businessperson non-professional alpine skier, started skiing when 7 yrs old. At the time of the injury he was 62 and he had been practising alpine ski on a daily basis for a couple of hours. The patient had never had any symptoms of Achilles Tendonitis and apparently, he was in good health. The injury of the right Achilles Tendon happened during a training session when he fell off, the left ski came off but the right one did not. The injury took place in a particularly cold day (the air temperature was -20°C), during the first downhill and the patient did not do any warming-up exercise.

The ultrasound exam showed a subcutaneous complete rupture of the right Achilles Tendon and therefore the patient underwent an open surgical treatment three days after.

The recovery after surgery has been regular and the patient has been discharged after two days from the surgery, prescribed antibiotics and anticoagulants and a band-aid to wear for four weeks without doing any effort. In four weeks from surgery, the patient had a swollen area where there was the injury, an evident calf hypotrophy, reduced mobility (0° in dorsal flexion and 30° in plantar flexion). It was prescribed to carry on with the band-aid for other three weeks and at the same time to start with physiotherapy, physical and anti-inflammatory therapy, passive and active exercises for recovery the range of motion, light strengthening and proprioceptive unloading exercises.

These therapies were done twice or three times a week together with two walking sessions in the swimming-pool. In seven weeks from surgery the patient took off the band-aid and started to walk with two sticks (about 70% load) while in the swimming pool the rehabilitation was performed in non deep water. When the band-aid was taken off, the patient had a swollen area where there was the injury, an evident hypotrophy of the calf and an almost normal passive mobility of the ankle joint.

In eight weeks from surgery, due to the improvement that was achieved with complete movements and the possibility to load the foot, other exercises in closed kinetic chain have been included. In ten weeks, the patient started to walk with only one stick and the quantity of strengthening and proprioceptive exercises was increased.

In twelve weeks from the surgery, the recovery of the active movements of the foot was complete and the second stick would not have been needed. Walking exercises on the treadmill started together with stretching exercises for the calf.

From the third month the patient needed less rehabilitation sessions (only twice a week) therefore from this time onwards progress has been slow and only at the end of the fifth month it has been possible to introduce some proprioceptive exercises. The patient was really afraid and he could achieve some improvement only with his educator.

At the end of the seventh month, the patient had the leg and ankle with no signs of edema, a good recovery of strength (he could play golf) and of the coordination with complete movements. In this situation, some exercises at the bouncer have been chosen, but the patient has interrupted the re-education to go on holiday for about two months, at the end of which, he re-started with the re-education. In this last period the frequency of the sessions



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diminished to once a week with aerobic reconditioning exercises, stretching, general and specific strengthening for the calf and the soleus muscles; proprioceptive exercises in order to return back to his sport regular sessions. The patient has been discharged in about nine months from surgery, after 82 rehabilitation sessions, 15 of which in the swimming pool. He could start again skiing and competitions with no problem.

Conclusions

The rupture of the Achilles Tendon in alpine skiing is not a frequent event. Athletes can ski again after 6 months from surgery depending on the frequency of the sessions.

Rehabilitation plays an important role, especially for middle age patients and ski amateurs.

References

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