Reconstruction of a Resected Achilles Tendon

Artelon
Optimal Tissue Reinforcement

CASE STUDY

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Introduction

As a consequence of, for example, trauma, infection or as in this case huge infiltrations of calcific masses, a significant length of the Achilles tendon could be missing after the necessary surgical resection. The problem then is to have the surgical means of bridging the gap in the tendon in order to restore its function. A number of different methods are described.

Image 1.
The x-ray revealed calcifications.

Case Presentation

The patient is a 45-year-old male with a history of increasing pain in his right Achilles tendon over a number of years. An investigation using MRI showed calcifications in his tendon.

Physical Examination

The patient could only walk with the use of a stick to relieve the load on his Achilles. The examination revealed a broad and extremely tender Achilles tendon. R.O.M. of the ankle was greatly diminished due to pain when he tried to move his foot.

Surgical Procedure

The preoperative plan was to resect all the calcifications seen on x-ray, and then reinforce the remaining Achilles tendon using Artelon® Tissue Reinforcement (ATR).

However, after meticulous resection of all of the calcifications it was found that only useless scraps of tendon tissue were left. In fact there was now a 7 cm long defect in the tendon (Image 2).

The surgical procedure had to be reconsidered and it was decided to proceed with a free gastrocnemius fascial graft reinforced by ATR. A gastrocnemius fascia

Image 2. Resection of the calcifications left a 7 cm long defect in the tendon.

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graft was used and sutured end to end at both the remaining proximal and distal stumps of the tendon, using 0-0 VicrylTM in a modified Bunnell fashion (Image 3).

The gastrocnemius graft was reinforced by enveloping it and the tendon stumps with Artelon® Tissue Reinforcement, sutured first at the ends and then through the gastrocnemius graft using multiple, multidirectional sutures (Image 4).

Postoperatively, the tendon was protected in a below-knee plaster.

Image 3. A free gastrocnemius fascial graft was used.

Rehabilitation

The patient had his below-knee plaster with full weight bearing for six weeks. After six weeks a below-knee orthose with free R.O.M. of the ankle was used. At the six-week control he had good, painless motion of his ankle and the operating wound was well healed.

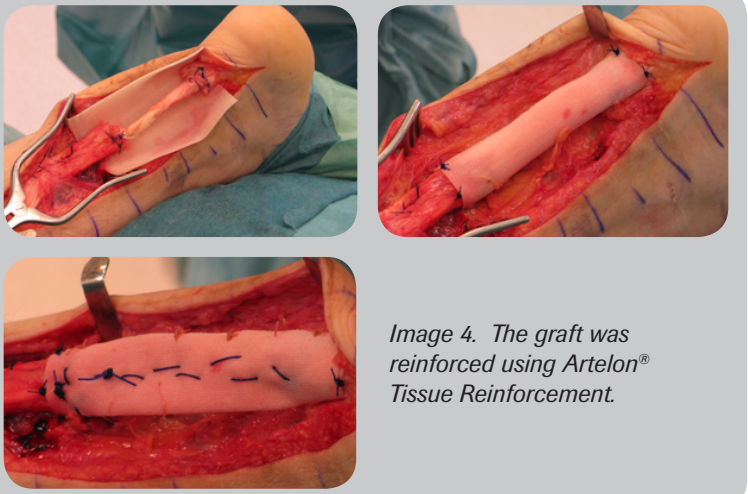

Image 4. The graft was reinforced using Artelon® Tissue Reinforcement.

Conclusion

The use of a gastrocnemius graft, reinforced with Artelon® Tissue Reinforcement, was highly successful. The graft operation had created a tendon that was virtually normal at the second operation one year after the initial procedure.

Image 5. The patient demonstrated good motion of his ankle at six weeks.

Image 6. The healed tendon had good elasticity and normal tension when tested.