

Suture of achilles tendon rupture under local anesthesia

We operated on a consecutive series of 30 closed Achilles tendon ruptures under local anesthesia and without the use of a tourniquet. We had no re-ruptures or major complications, and the results were comparable to other series of operatively treated achilles tendon ruptures.

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In 1972, Lea & Smith resurrected the closed treatment of Achilles tendon ruptures by reporting acceptable results following immobilization of the ankle in the equinus position. Local complications were thus avoided, but re-ruptures occurred in one tenth of their cases. In reviewing the literature, Edna (1980) found the frequency of re-ruptures to be 1 per cent following open treatment and 15 per cent with closed treatment. However, after open treatment, major complications are reported to appear in approximately 6 per cent of the cases (Nistor 1981).

Ma and Griffith (1977) and Rowley & Scotland (1983) have stressed the efficacy of local anesthesia using a suture technique that makes surgery economically comparable to closed treatment.

We present a consecutive series of closed Achilles tendon ruptures treated by conventional end-to-end suture under local anesthesia.

Patients and methods

During the period September 1983 to September 1984, 30 consecutive patients (23 men and 7 women) with a closed Achilles tendon rupture were operated on under local anesthesia without the use of a tourniquet. The median age was 37 (25-69) years. In 25 patients the rupture occurred during sports.

The operation was performed with the ankle in the equinus position. A curved medial approach was used. The line of the skin incision was infiltrated with Carbocain® 1 per cent with adrenalin.

The rupture was repaired according to Kessler, with coaptation sutures of the surface of the tendon. The paratenon was closed separately. An above-knee

plaster cast was applied with the ankle in the equinus position and the knee in slight flexion for 3 weeks followed by weekly redressment toward the neutral position using a below-knee plaster cast. Weight-bearing was permitted the last 2 weeks of a total immobilization period of 8 weeks.

At follow-up two patients had moved to other parts of Denmark, but they reported that the tendon had not caused any problems. Twenty-eight patients were examined with a median follow-up period of 15 (6-19) months.

The results were evaluated using the Arner & Lindholm (1959) scale: Thus, the results were classified (1) as *excellent* if the patient was free from discomfort with essentially normal function and clinical findings; (2) as *good* if the patient had only mild discomfort with only minor reduction of function; and (3) as *poor* if the patients is dissatisfied, had marked discomfort and/or impaired function, for instance an inability to stand on tiptoe, a limp or restricted ankle mobility exceeding 10 degrees in a dorsal and/or 15 degrees in a plantar direction.

Results

Twenty-one patients were treated as out-patients, and nine patients were treated as in-patients, with a median hospital stay of 2 (1-7) days. The operation was not complicated by the use of local anesthesia or the lack of the bloodless field.

During the operation neither physical nor psychological discomfort was experienced by 21 patients. Four patients experienced slight pain, especially when the tendon was pulled. Three patients felt it unpleasant to be awake during the procedure.

There were no re-ruptures and no primary

wound complications. Six patients had slight fixation of the scar, but in no case did this cause any symptoms. One patient had temporary hyperesthesia in the area supplied by the sural nerve.

The results were excellent in 18 patients, good in seven and poor in three patients.

Discussion

Suture of the Achilles tendon is followed by a minimum of reruptures, but complications, such as deep infections, fistulae, necrosis of the skin or the tendon, have varied from 3 to 30 per cent (Arner & Lindholm 1959, Høgh & Lauritzen 1977), more often following plastic operations compared with simple end-to-end suture (Høgh & Lauritzen 1977, Termansen & Damholt 1979).

In our series there were no reruptures and no major complications. Although this partly may due to the size of the series, our results are comparable to those reported from other openly treated series (Hooker 1963, Høgh & Lauritzen 1977, Jessing & Hansen 1975). A supplementary benefit of our procedure is the elimination of anesthesiologic assistance.

Closed treatment of Achilles tendon rupture is acceptable (Lea & Smith 1972, Nisto 1981), but it has been followed by a higher frequency of reruptures (Edna 1980, Inglis et al. 1976) and an elongation of the tendon (Lea & Smith 1972, Lildholdt & Munch-Jørgensen 1976, Rowley & Scotland 1983).

Because the operation can be performed under local anesthesia in the out-patient department, it makes the procedure economically comparable to non operative treatment.

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