Session A – 11:08 – 11:15 am

Functional Early Weight-bearing Rehabilitation of Achilles Tendon Rupture: The Influence on Re-rupture Rates and Outcome Scores

Presenting:

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Summary:
80 consecutive patients were treated in a functional weight-bearing orthosis after surgical repair (29 patients) or as non-surgical treatment (51 patients). Clinical outcomes using the Achilles Tendon Total Rupture Score and the VISA-A score were similar. Re-rupture rate was 3.4% after surgery and 3.9% after non-surgical treatment.

Introduction
Current evidence for treatment of Achilles rupture suggests that open surgical repair reduces the re-rupture rate compared to conservative treatment, but with a higher risk of infection. Many previous studies used casts in the non-surgical treatment of Achilles ruptures and sometimes in post-surgical aftercare. Modern non-surgical treatment and surgical aftercare involve early weight-bearing in functional orthoses. It is therefore appropriate to again measure their re-rupture rates and outcomes.

Materials and methods
Between 2002 and 2008 our unit prospectively collected data on 80 consecutive patients treated with a below-knee functional orthosis for complete Achilles tendon rupture. Diagnosis of rupture was made on clinical grounds. Patients made their own choice of treatment following evidence-based counselling. The patients were treated either surgically or conservatively according to their preference. Post-operative care included application of a Vacoped brace within days of surgery, full weightbearing and protected movement once the wound healed. Non-surgical care involved immediate application of a Vacoped orthosis with full weightbearing and protected movement after three weeks. A standard rehabilitation programme followed.

Patients were contacted by telephone or post for follow-up (by one of two observers who were not involved in the patients’ care) and completed a VISA-A and Achilles Total Rupture Score (ATRS) questionnaire.

Results
Included were 61 males and 19 females with an age range of 24–80 (median 42). The median time in the functional brace was 8 weeks. 51 patients chose non-surgical treatment and 29 patients surgery. The conservative group were a decade older (median age 45y, range 27-80) than the surgical group (median age 36y, range 24-55y).

In the conservative treatment group the re-rupture rate was 3.9% (2/51, 95% confidence interval 0.5-13.5%). In the surgical group it was 3.4% (1/29, 95% confidence interval 0-17.8%). In the surgical group the wound infection rate was 6.8% (2/29, 95% confidence interval 0.9-22.8%) with no nerve injuries reported.

The mean ATRS was 84 in the conservative group and 94 in the surgical group. The mean VISA-A scores were 66 and 91 respectively. Statistical comparison of these scores was not felt to be meaningful as the groups were self-selected and had different profiles for age, sex and physical activity. All patients returned to their previous work where applicable, but one-third of the non-surgical group were not employed prior to injury whereas all but one of the surgical group were working. Ninety-six percent of the surgical group played...
sport prior to injury; 87% percent of these returned to sport but only 50% to full training and competition. Seventy-four percent of the non-surgical group played sport prior to injury; 75% of these returned to sport but only 28% to full training and competition. Nevertheless both groups were satisfied with their personal outcomes.

Discussion
Our case series shows comparable low re-rupture rates in both groups. Functional scores, using the newly validated ATRS score, were lower in the non-surgical, older group. As the groups were demographically different, direct comparison of outcomes is not meaningful.