

Surgical Treatment of Achilles Tendon Ruptures Using The Bosworth Technique: Retrospective Study Of 28 Cases.

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Abstract

Original Research Article

The Achilles tendon is the largest and most resistant tendon of the human body. Its acute rupture has become very frequent, linked to a sudden acceleration effort, in the majority of cases during a sportive activity. Our work focused on 28 cases of achilles tendon rupture in the trauma and orthopedic department of Avicenne hospital in Rabat over a period of 7 years between January 2007 and December 2013. All our patients were surgically treated by BOSWORTH technique. The long-term results, after a 36-month decline, were assessed according to McComis criteria. They were excellent en 85% and very good en 15%.

Keywords: Achilles tendon, rupture, Surgery, BOSWORTH.

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INTRODUCTION

The rupture of the Achilles tendon is more and more frequent in the world and in our country because of the considerable development of the sports activities, the increase of their intensity and the absence of means of prevention.

GOAL

In this retrospective work, we propose to specify the epidemiological, clinical, therapeutic and post-therapeutic features of this lesion.

MATERIALS AND METHODS

This is a retrospective study of 28 observations recorded in the Trauma and Orthopedics Department of Avicenna Hospital in Rabat over a period of 7 years between January 2007 and December 2013, with a decline between a minimum of 5 months and a maximum of 6 years and 7 months.

RESULTS

Our patients were divided between 26 men (92.8%) and 02 women (7.2%), the average age was 36 years with extreme ages of 16 to 58 years. Sports accidents were responsible for Achilles tendon rupture in all our patients. The attack on the right side was

slightly dominant. The diagnosis was evident on clinical examination. All patients underwent open surgery using the Bosworth technique.

Only one patient presented with a skin infection. No cases of postoperative pain or iterative rupture occurred. Long-term results were assessed according to McComis criteria with an average follow-up of 3.5 years. Thus, we found 85% excellent and very good results.



Fig-1: Appearance of old rupture of the Achilles tendon with retraction and sclerosis of extremities



Fig-2: Aspect of the repair after triceps sural plasty

Table-1: Overall results in the literature

	Excellent Result	Good Result	Average Result	Bad Result
Lecestre (percutaneous tenorrhaphy)	55,74%	36,07%	4,9%	3,28%
Maffulli (open surgery)	61,5%	27,9%	11,5%	-
Our serie (Bosworth)	85%	15%	-	-

DISCUSSION

She was the first described by Ducroquet, then by Bosworth. It is intended for cases where the interfragment gap is wide and where the end-to-end delivery is very difficult, even illusory.

The epidemiological studies of Möller *et al.* showed an incidence curve of Achilles tendon rupture with two peaks, one for the young and the other around 70 years old. The age of our patients varies between 16 and 58 years with an average age of 36, which is lower compared to some series. This can be explained by the presence of a young population in Morocco.

Male predominance is allowed in all series. It is 92.8% in our series. This male predominance is explained by higher sport activity among men (especially extreme sport).

All patients in our series had a break during a sports activity. The most common cause of Achilles tendon ruptures is represented by sport accidents, which has been reported in all series of the literature. The right side is slightly more affected in our patients, but this is very variable depending on the series.

We find in our study 3.5% of minor complications represented by a case of superficial infection of the operative site. Our results are inferior to the work of Wong *et al.* or those of Strauss, Beskin who found 7% of local complications and significantly lower than Khan *et al.* with 34%. The low rate of skin complications was probably secondary to strict outpatient follow-up postoperatively.

No cases of iterative rupture have been reported. However, cases of iterative rupture have been

reported in the series of Lecestre *et al.* where there was 3.27% of iterative rupture after percutaneous tenorrhaphy or those Strauss which finds in its series 3.6% of rerupture in the surgical treatment.

No cases of residual pain have been reported in our patients. However, it is present in 1.6% of patients in the Lecestre series and en 27.44% of patients in the Mertl *et al.*

Apart from the iterative rupture, we find in our series an absence of major complications and a presence of a minor complication very encouraging, which leads to judge the effectiveness of the Bosworth technique.

We found in our study a sports recovery to 180 days on average. According to the literature, the average recovery is between 130 and 180 days regardless of the therapeutic management.

CONCLUSION

- Breaks of the Achilles tendon preferentially affect the young male athlete. The quality of the functional result is crucial for the resumption of the sport activity.
- The purely clinical diagnosis is the rule.
- The management of Achilles tendon rupture remains controversial between the effectiveness of surgical and orthopedic treatment.
- The development of percutaneous and functional techniques has not yet led to the conclusion that treatment is superior to another.

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