



Surgical Treatment of Breach of Achilles tendon: Retrospective Study about 49 Cases

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ABSTRACT

The rupture of the Achilles tendon, so frequent especially in sports, has an impact which the increase was significant in the world and in our country in recent years, parallel to gain popularity in sports and the absence of means of prevention. In this retrospective study, we propose to evaluate different surgical techniques with the precision of epidemiological, clinical of the injury. This is a study of 49 patients treated between January 2008 and November 2013 in the service of Orthopaedic Traumatology CHU Ibn Sina in Rabat with a frequency of 8.5 cases per year. Our patients are divided into 47 men and 2 women, average age was 34 years with a maximum of cases between 30 and 50 years. Sports injuries were responsible for 51% of lesions with no predominance of the right side from the left side. The diagnosis was evident on clinical examination. All patients underwent conventional open surgery, the technique of Bosworth was slightly dominant. Two patients had a skin infection. No cases of postoperative pain or recurrent rupture occurred. The long-term results were evaluated according to the criteria of Mc Comis with a mean of 2.5 years. Thus, we found 95.9% excellent and good results and 4.08 of mayens results. The Achilles tendon is the largest and strongest tendon in the human body, the impact of his break has long been considered rare; the marked development of sports and leisure activities for the considerably increase. Treatment of ruptured Achilles tendon been no consensus in the light of recent clinical studies, it appears that for active patients and especially sports the treatment of choice is surgical, but the choice between conventional surgical techniques and minimally invasive remains debated. In Morocco, conventional surgical techniques are commonly used while in developed countries the minimally invasive surgery is becoming more and more its place.

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Introduction

Achilles, warrior and hero of Homer's Iliad, has left his name to the Achilles tendon. The legend says that Thetis, Achilles' mother, gave her son invulnerable to physical injury by immersing it in the Styx after learning by prophecy that Achilles would soon die in battle. However, the heel by which he was held was not immersed in the divine water, which conferred a vulnerable point for Achilles. Nicknamed "the mighty shield of the army," he took part in the destruction of many cities. At the head of the Greek army in the Trojan War, Achilles did wonders and allowed his army to enter this city coveted. But Paris taken murderous jealousy unwavering success Achilles and guided by Apollo, who took down an arrow sank into the heel Achilles fell "like a tower that reverses the wind". [1]

The Achilles tendon allows the distal insertion of the soleus and gastrocnemius muscles on the calcaneus, which gives it a complex anatomy, functional particular. He is responsible for control of three joints: the knee, ankle and subtalar joint. The Achilles tendon is the thickest, most voluminous and strongest tendon in the body. It has a narrow area between 4 and 7 cm from its insertion on the calcaneus, which is the seat elective ruptures. His break that defined as an interesting solution of continuity part or all of its width has been known since ancient times, returns to its original description Ambroise Pare, who in 1575, King Charles IX treated for this injury by bed rest, however his surgical repair was proposed in the tenth century by the Arab physician Avicenna. Since the mid-20th century, many

authors have reported an increased incidence of rupture of the Achilles tendon. One explanation retained for twenty years is the gain in popularity of recreational sports. [2] The rupture of the Achilles tendon is frequently sided with a male between 30 and 50 years. If the clinical diagnosis of the lesion is easy, its treatment remains without consensus, new studies published in the literature tend, however, to demonstrate that surgical treatment can achieve better results, especially in a young and athletic patient. Surgical treatment in the acute phase is not without risk of complications, especially in the conventional techniques. In order to minimize these complications, treatment of these lesions has progressed significantly with the advent of new therapies methods such as: percutaneous suture and minimally invasive surgery. In Morocco, open conventional surgical techniques are commonly used while in developed countries the new techniques are increasingly taking their place.

Materials & Methods

This is a retrospective study of 49 observations listed at the Trauma and Orthopedics Service of Avicenna Hospital in Rabat for a period of 5 years and 9 months between January 2008 and November 2013, with a decline from a minimum of 05 months and a maximum of 05 years and 10 months. Over a period of 5 years and 09 months we identified 49 cases of Achilles tendon ruptures treated surgically, which corresponds to a frequency of 8.5 cases per year. The age of our patients varies between 16 and

53 years. Maximum cases was between 30 and 50 years. The mean age of patients was 34 years. The majority of cases in our series were male (47 were men or 94.7% of all cases) with a sex ratio (M / F) 24.5. We note that there is no predominance of one side versus the other. The right side was affected in 26 patients (53%), while the left side in 23 patients (47%). The circumstances which led to ruptures of the Achilles tendon in our series are:

- Sports injuries: 25 cases either (51%)
- Domestic accidents and labor were observed in 08 cases or (16.32%).
- Injuries have been implicated in 16 cases (32.65%).

The delay of diagnosis was more than 4 weeks to 07 cases (14.28%) and less for 42 cases (85.72%). All failures were evident on clinical examination was often bothered by the pain. Thus, standing, lameness is constant and the OLB is impossible. In the prone position, the sign of Brunet Guedj is present and maneuver Thompson is positive in all patients (lack of mobilization in plantar flexion of the ankle during the acute pressure of the muscles of the calf: pathognomonic of rupture of the Achilles tendon). Local examination revealed in all cases edema filling retromalleolar gutters greater among patients who consulted more than 24 hours after the accident. Finally, palpation objectified all ruptures were located right in the body tendon. The diagnostic tests were never essential to the diagnosis. However, all patients have consistently enjoyed a radiograph of the ankle which showed a loss of physiological equinus without bone fractures associated, except in two cases where it has objectified a bone loss of the calcaneus Ultrasound was performed for 14 cases (28.5%), MRI have been performed in any patient.

- Spinal: 41 cases (83.6%).
- Block the lower limb or locoregional anesthesia: 08 cases (16.4%)

The tourniquet was used in all patients and at the root of the thigh after draining the limb. All patients were installed in the prone position on an ordinary table. The incision was not identified in our series on several occasions, however, it has been observed in cases where it has been cited in the cases reviewed in the context of scalable monitoring the incision was para internal -achilléenne, 2 to 3 cm in the middle of the posterior surface of the tendon, and extended by 5 to 6 centimeters upward in cases where the Bosworth technique was used. The cases reported in our study were treated in the following manner as shown in the following figure:

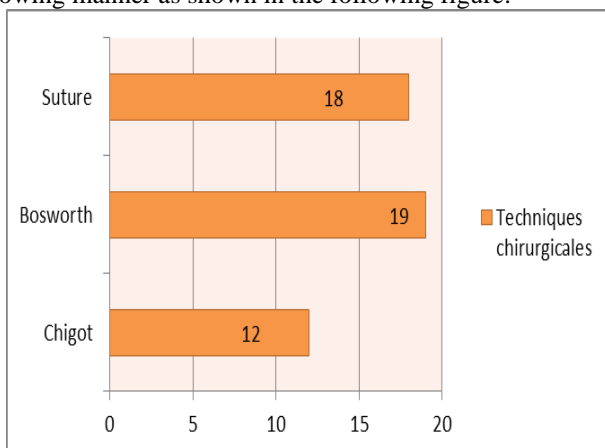


Figure 1. Surgical Techniques

All patients in our series received an anti-inflammatory treatment of antibiotic prophylaxis for 48 hours, and systematic thromboprophylaxis based on low molecular weight heparin. A plaster splint in physiological equinus was performed in the operating room, to monitor the skin condition during the first 48 hours, supported by a cast boot equinus then, after three weeks, with a cast boot at 90 ° for three additional weeks followed by iterative plasters to recover a 90 ° position of the ankle. The support was gradually resumed without using a cork heel in the shoe. With a decline from a minimum of 5 months and a maximum of 5 years and 10 months, there has been reviewing the patients in consultation for evaluation.

The local skin condition

He was perfect in the majority of patients. A superficial skin infection was noted in two patients. The local state has evolved subsequently in appropriate antibiotic therapy and be local

The average work stoppage was 3 months with extremes between 2 months and 4 months. Resume sporting activities was performed on average at 6 months after the initial trauma. The 25 patients all known sports resumed sports activity (100%) of which only 7 at the same level. Thompson maneuver was performed in all patients. It was comparable to the other side in all cases. The atrophy was inconsistent in our patients. She was on average less than 1 cm. Patients undergo a rise test on tiptoe on the affected side, and then the same test by putting a drag on his shoulders. It was possible in all cases and similar to the healthy side in all patients.



Figure 2. First Way Posteromedial

Discussion

Recent research shows that over the past decades, the incidence of rupture of the Achilles tendon shrugged, Current estimates are 18 ruptures 100,000 inhabitants, one explanation retained at the increasing number of breaks is the gain in popularity of recreational sports. In addition, the annual incidence is constantly increasing in the Scandinavian countries, it went eg Denmark 18.2 / 100,000 population in 1984 to 37.3 / 100,000 inhabitants in 1996 [3]. Surgical treatment of ruptures of the Achilles tendon represents 40% of interventions across all tendon ruptures. [4] Our series includes 49 cases of rupture of the Achilles tendon, operated over a period of 5 years and 9 months. This figure is close to the literature data, this can be explained by the considerable development of sports activities in our country. Epidemiological studies of Möller et al. showed an incidence curve of the rupture of the Achilles tendon with two peaks, one for youth and one to 70 years. [5] The age of our patients varies between 16 and 53 years with a mean age of 34 years, who turns out lower than in some series [6,7,8]. This can be explained by the fact that sports activities are mainly

practiced by a young population in our country. The male is admitted to all series. It is 94.7% in our series. This male is due to a higher sports activity in men. The majority of patients in our series had a break during a sports activity. The most common cause of ruptures of the Achilles tendon is represented by sports accidents [9] which was reported in all series of the literature. The right side is slightly touched in our patients, but this varies depending on the series. The diagnosis is easy and should not be ignored in emergency with a simple examination and rigorous clinical examination. In our series the interview and clinical examination were easy and sufficient for the diagnosis, which is consistent with literature data where additional tests are made only to rule out other injuries (standard radiography) or in addition in neglected lesions (especially ultrasound and MRI) [10,11].

Comparing our results with those of other series, we found that the choice of surgical treatment of ruptures of the Achilles tendon is not the subject of consensus. In our series, all patients underwent surgical treatment in the open using different techniques:

- 15 cases: single running suture sutures with reinforcement or lacing
- 25 cases: plasties with 60% according to the technique of Bosworth
- Weber et al [12] and Farizon [13] also favored the suture and lacing with a possible increase if there is a tendon fragility.
- Lecestre [14] Rouvillain [15] Boukhris [16] and many other authors have preferred percutaneous ténorrhaphie according to Delponte technique.
- Lansdaal [17] and assai, [18] to them when used in minimally invasive surgery.

The choice of surgical treatment of recent rupture of the Achilles tendon is not the subject of consensus, it is mainly based on the patient's condition more than the breaking of type:

A sporty patient, let alone competitor seems to benefit from surgical treatment, followed by a functional treatment. In contrast, elderly or with local or general cons-indications to surgery, orthopedic treatment followed by functional rehabilitation seems to be an indication of choices. In a subject mature, athletic leisure: the functional treatment and percutaneous suture are preferred over surgical treatment complications especially skin are not negligible. [19]

Conclusion

Ruptures of the Achilles tendon preferentially affecting the young athlete male. The quality of the functional outcome is crucial for the resumption of sporting activity. The purely clinical diagnosis is the rule. There is, at present, no formal consensus on the best therapeutic approach. Surgical treatments allow tendon contact quality, favorable to a solid healing respecting the length of the tendon.

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