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The rupture of patella tendon about ten cases

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ABSTRACT

Patellar tendon rupture is a rare disease. It is often confused with lesions of the quadriceps tendon, fins and patellar fractures parcel of the patella. We report ten cases of rupture of the patellar tendon which eight were new and two neglected. Treatment was always surgical. In recent lesions (8 cases) by a simple suture nonabsorbable suture was performed, it was reinforced by a steel strapping over. Plasty further by the semitendinosus tendon was necessary in one case. In both cases neglected plasty was necessary. It was conducted by the aponeurosis of the quadriceps in one case, the tendon of the semitendinosus in the other cases. The results are satisfactory. They are good in eight cases of recent lesion and two lesions in ways neglected. Early diagnosis is easy. It allows access to the best results in the treatment of fresh lesions. The treatment of neglected injuries, despite the various techniques, gives results fair or poor.

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Introduction

The patellar tendon ruptures are rare lesions of the extensor apparatus. They compromise the function of the knee. Their diagnosis is usually easy when they are new, but becomes more difficult when they are neglected. The treatment of these fractures is always surgical. The techniques described are numerous: simple sutures, sutures reinforced, sutures with metal frame plasty reconstruction and tendon graft (1, 2, 3, 4, 5, 6). Surgical treatment should be followed by a well-conducted rehabilitation, to avoid compromising the process of tissue healing.

We collected over 13 years, in our training, 10 cases of patellar tendon ruptures recent or neglected without avulsion.

Study Material

The work we have done, is a retrospective study of 10 cases of patients hospitalized in the orthopedic trauma - CHU Ibn Sina Rabat. There were 8 men and 2 women whose average age was 33 years. The lesions were unilateral and interest 2 times the left side and the right side 8 times. The mechanism of injury breaks in 4 cases corresponded to a direct impact and in 6 cases to indirect trauma. The direct mechanism was due to AVP (accident highway) in one case and a sports accident for the other 3. The indirect mechanism was secondary to falls in 3 patients and a sports accident in the other 3 cases.

We did not notice any predisposing factors apart from the case of a patient with sports tendinitis patellar tendon.

The clinical picture of recent ruptures subcutaneous came down to a big knee high with traumatic patella and patellar groove sub-painful. Active extension was impossible. In cases of neglected ruptures there was a limp with the knee giving way. On physical examination, we found a mobility limitation, a deficit of active extension, high patella and quadriceps muscle atrophy. The consultation period in these cases was an average of 8 months. Plain radiographs showed ascended spherical profile of the knee. In neglected cases, calcification existed in the path of tendon and gave a double aspect ball in one case.

The surgical treatment of ruptures recent emergency was performed by median incision earlier. The patellar tendon is

sutured with silk lacing. The sutures are protected by a steel wire frame passing through tunnels in the patella and the tibial tuberosity. The voltage was set to the strapping 90° flexion.

We conducted a case further plasty by the semitendinosus. It was a break from direct trauma due to accident Public Ways (AVP), medium head with very frayed tendon and patellar major tear fins.

In the case of neglected breaks, treatment was more difficult. We performed a tuck in semitendinosus kind KELIKIAN (1) in one case and tuck the fascia of the quadriceps in the other case. The immobilization was performed by knee plaster for a month by allowing the support and rehabilitation of isometric quadriceps. At the end of the asset an active rehabilitation was initiated.

Results

We noted two complications. In one case, it was a superficial infection that responded favorably to treatment without influence on the final result. In either case, a breakage occurred to the top rim of the active rehabilitation. This patient required reoperation.

The average decline in our series is greater than 6 years (8 months -13 years). All patients recovered a complete extension force. Four patients treated for subcutaneous rupture recent well have evolved, active flexion home exceeded 110°. The last patient kept a flexure limiting to less than 100°, although an appropriate rehabilitation.

The results are means neglected ruptures. We noted in a patient limited to 90°, but with pain climbing stairs flexion. The other patient was kept bending does not exceed 70°, despite AG mobilization under the 6th month. All patients kept a quadriceps atrophy without functional impairment.

Discussion

We have not seen as important contributing factors than others (4, 7). However, little symptomatic tendonitis has not been reported by our patients, can not be eliminated. Several diseases in addition to tendonitis can promote rupture of the patellar tendon as chronic renal failure, hyperparathyroidism and systemic diseases (4, 7). These cause a change in the

structure of making it less resistant tendon , and bone in the embrittling tendon insertions . In the indirect mechanism by fractures there is a hyper forced flexion of the knee, thwarted by a violent contraction of the quadriceps.



Figure 1: Standard radiograph of the knee, breaking neglected: Double aspect ball



Fig 2a

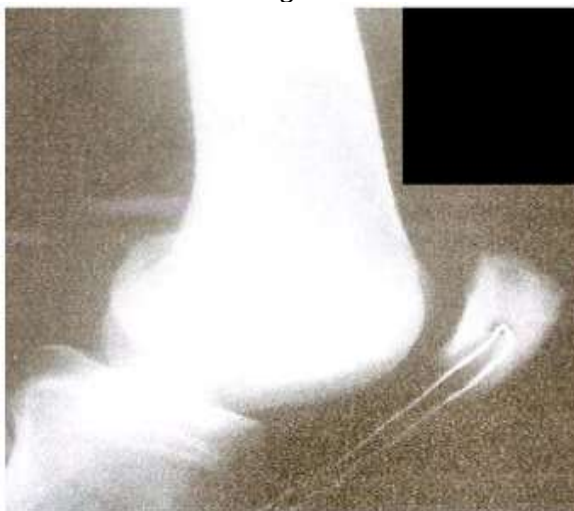


Fig 2b

Figure 2a et b: X-ray control after surgical repair

The seat of rupture depends on the degree of knee flexion during the trauma, rupture of the extensor seat at the patellar tendon beyond a 90 ° flexion (6, 7, 8, 9). Delay consultation observed in our patients is mainly due to low socioeconomic and remoteness of health facilities (rural areas). Anatomical lesions recent subcutaneous ruptures were important, the tendon was frayed and torn patellar extended fin . In one case there was a defect (cases requiring plasty) . The patellar tendon rupture sat

three times its middle part and four times in the upper part . In neglected fractures, there was a significant rise of the patella secondary to retraction of the quadriceps muscle. Fibrosis occupied all the empty spaces and calcifications exist on the path of the tendon.

Some incomplete ruptures have little obvious symptoms. In these cases other radiological investigations are invaluable. Ultrasound is used to compare the echo structure of the patellar tendon compared with the contralateral side .

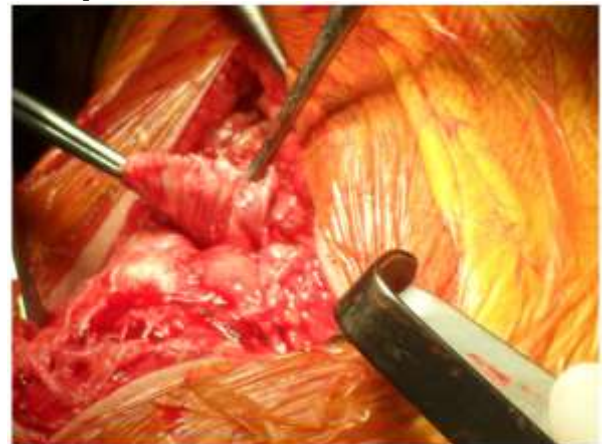


Fig 3a

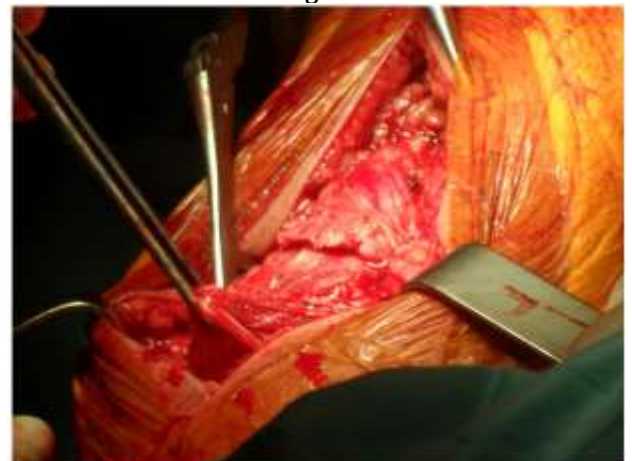


Fig 3b

Figure 3a et b: The first surgical showing tendon rupture.

MRI is the best test, it allows a better definition of anatomical structures (10, 11). Surgically , breaks subcutaneous Recent lend themselves well to the lacing of the patellar tendon , protected by a strapping followed by rehabilitation after immobilization one month (4, 6) .

In ancient ruptures neglected arises over the issue of patellar ascension . Lowering of the ball may be made preoperatively or traction preoperatively by surgical release (6). Techniques tendon plasty or syndesmoplastie are numerous. Several authors have described their own technique. KELIKIAN (1) has described his technique plasty by the semitendinosus and SAILLANT (4) has changed the direction of the tunnel in the tibial tuberosity Anterior (TTA) , Mandelbaum it combines a Z-plasty lengthening of the quadriceps tendon in a Z-plasty shortening of the patellar tendon , the whole being protected by a plastic surgery to semitendinosus .

Finally, Dejour Lyon (5) recommends the use of a composite graft (quadriceps tendon patellar ligament patellar wand wand TTA) taken the contralateral knee and embedded in a trench diseased knee bone . Many other techniques have been described by other authors , without being able to prove the superiority of one technique over another . Plasty techniques are

indicated in the inveterate ruptures sometimes neglected in recent tendon ruptures with sick or significant loss of substance , it was the case of one of our patients.

Rehabilitation is essential to hope to get a good knee mobility. It must be gradual and started as soon as possible depending on the strength of the repair performed (4, 5, 6). The active phase saves about 10 ° per week . The results of this series are similar or close to those in the literature (4, 6) . A long downtime has a bad effect on the functional outcome.

A solid repair allows early mobilization but requires plasty in case of large tendon injuries and fins .

Conclusion

The patellar tendon ruptures are rare lesions , their diagnosis and treatment should be early , in order to avoid disruptions neglected stage , the treatment is more difficult and more random results.

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