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ACUTE RUPTURES OF THE ANTERIOR CRUCIATE LIGAMENT. EARLY REPAIR WITH THE LARS INTERNAL FIXATION PROSPECTIVE STUDY – 5 TO 15 YEAR FOLLOW UP

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In acute A.C.L. ruptures simple sutures have shown a high rate of failures. Therefore primary or secondary autogenous reconstructions have been promoted but seem to be sometimes quite heavy procedures and have a certain morbidity. Our aim was to make the consequences of this injury more simple and faster for the patient and if possible less damaging. The A. C. L. itself is the only structure having mechanoreceptors and connexions for proprioception, which is probably a most important factor. Therefore it could be the best material if we could have a reliable technique to immediately stabilize the knee and favorize the healing process

METHOD

The “internal fixation” is a purely arthroscopic procedure. Some rules have to be strictly respected : isometry, posterior tibial insertion, a straight alignment of the tibial and femoral tunnels when the knee is in flexion of about 50°, no tension at all of the artificial ligament while the repaired A. C. L. must be slightly tightened, no impingement with special attention to the roof of the notch. The intra articular “free fibers” structure of the artificial ligament(LARS-Ligament Advanced Reinforcement System) allows , with a smaller volume of synthetic material , a better permeability to fibroblastic ingrowth and a better resistance to fatigue specially to torsion.

RESULTS

497 acute A. C. L. injuries entered the prospective study . 259 were reviewed with a 5 to 15 year follow up. Objective mechanical results were assessed in 219 by using the Telos radiolaximetry with comparative measurements at 100 newtons and 250 newtons.

A side to side difference in the Lachman - Noulis test of less than 3 mm was found in 79 %, 3 to 5 mm in 9,6 % and over 6 mm in 11,4 %. The Jerk-test was negative in 91.1 %, $\pm$ in 3.8 %, + in 3,2 % and + + in 1,9 %. Global results were assessed according to the I. K. D. C. scoring system. 203 patients (78,3 %) were found in group A, 27 patients (10.4 %) in group B, 22 patients (8,5 %) in groupe C and 7 patients (2,7%) in group D.

No complications related to the LARS ligament were noted. No acute nor chronic synovitis. A lack of extension of 5° was found in 3 patients. Flexion was $\geq$ 130° in all cases. 7 “spontaneous” ruptures (2.7 %) were identified. 89 % of the competitors level athletes (87 / 98) resumed to their sport at the same level in an average delay of 3.6 month.

CONCLUSION

Our results correlate with those of several authors (G Papadopoulos- S. Maheras- G Barisani . G.Cerruli)

The use of the LARS internal fixation to reinforce early repair of a torn A.C.L. is a straight forward technique that respects conditions for proprioception. It is quite conservative since it demands only the drilling of small bony tunnels and no other damage. The results are at least comparable to other techniques but much more simple and fast for the patient. With this technique the classical arthrofibrosis usually related to acute surgery was not encountered probably due to immediate full motion and weight bearing . Post operative arthroscopic and histologic controls showed that artificial ligaments were perfectly tolerated and invaded by fibrous tissue while the torn A. C. L. was perfectly healed when the injury was located a the upper or lower extremity, but not so well for mid substance injuries.