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The “over the top” anterior cruciate ligament reconstruction in patients with open physes: A long term follow up study

Federico Milazzo
University of Perugia, Italy

ACL rupture in skeletally immature athletes is becoming an injury with increasing incidence. Choices of treatments are still debated, including conservative management vs various surgical techniques. Lack of long-term reports has been highlighted in the literature. Aim: to evaluate long-term results of Anterior Cruciate Ligament (ACL) reconstructions in skeletally immature patients by using the “over the top” technique. Retrospective study. All surgeries performed by same team. 42 patients met inclusion criteria. All patients had preoperative radiological studies. 30 males-12 females. Average age: 12.5 years (range 11-14 years). Average follow-up: 96.1 months. Clinical evaluation: IKDC, Tegner-Lysholm, KT-1000, plain radiographs. Standardized rehabilitation protocol. No instability nor leg length discrepancy recorded. Muscle hypotrophy of operated limb: 20 cases. No revision surgery. Average pre-op Tegner-Lysholm and IKDC: 55 and 40; 94.8 (p<0.05) and 94.78 at final follow-up (p<0.05). Median post-op Tegner: 8. Mean side-to-side (KT-1000): 1,2mm. 22 patients could go back to pre-injury sport activity. Average rehabilitation: 7.3 months. Few complications: 2 patients re-injured the operated knee (revision surgery needed); one contralateral ACL rupture, 1 soft tissue infection. No metalwork failure. A significant amount of cases (comparing our study to majority of published works) was included. Functional scores were overall satisfactory. No significance differences between operated limb and unaffected leg at final follow-up. All knees clinically stable. Our study boasts of well-structured and standardized long-term follow-up. The best possible methodology with clear inclusion-exclusion criteria and prospective data collection were used. Good results are testified by final achievement of 22 patients to go back to pre-injury sport activity in keeping with literature. The studied procedure seems an excellent option strategy and a feasible and safe technique when treating ruptured ACLs in scheletally immature patients. This is testified by good objective and subjective outcomes (medium and long-term).

arifguldr@gmail.com