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## Use of growth factors in ACL surgery: preliminary study

Received: 10 January 2005  
Accepted: 15 April 2005

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**Abstract** There is no general consensus on the use of growth factors (GF) in surgery. The aim of this study was to clarify if GF play a role in anterior cruciate ligament (ACL) surgery. Twenty patients with laxity caused by a torn ACL underwent arthroscopically assisted reconstruction with autologous hamstring tendons. We performed a prospective study with these patients randomized into 2 groups: GF-treated and control. Growth factors were obtained according to the GPS Biomet-Merck technique and are applied to femoral and tibial tunnels during surgical procedure. Patients were evaluated clinically and functionally. Computed tomography (CT) of the knee was performed in all the patients; a limited number of patients underwent magnetic resonance imaging (MRI). There were no significant differences concerning KOOS, IKDC, KT-

1000, Tegner score rating and clinical examination between the two groups 6 months after ACL surgery. CT highlighted a significant difference ( $p < 0.01$ ) between ACL density of the two groups and showed that ACL density was similar to that of the posterior cruciate ligament in GF-treated group. In this group, however, one patient had a synovitic reaction: the new ACL was increased, hypertrophic and surrounded by a reaction of soft tissues. GF may accelerate the integration of the new ACL in the femoral and tibial tunnels, but further clinical studies are necessary to better understand the mechanism of action of GF, widely studied only in vitro and in animal models.

**Key words** ACL • Arthroscopy • Hamstring tendons • Growth factors • Sporting activities