

Shockwave Biosurgery and Autologous Growth Factors Combined Therapy in Severe Patellar Tendinopathies

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Patellar tendinopathies represent a challenge for physicians because the response to treatment is poor, the rehabilitation is long and the leave from competitive sports very frequent. Treatment with ESWT has been reported for patellar tendinosis, but good results are evident only after months of treatment.

We performed a pilot protocol of ESWT and Autologous Growth Factors (AGF) combined therapy for chronic patellar tendinosis. Ten volunteer patients aged between 20 and 44 years with at least one year of proximal patellar tendinosis were recruited. Patients had previous treatments including at least two steroid injections, failed rehabilitation protocols and pain during daily activities. MRI studies reported areas of degenerative tendinosis in the proximal insertion of the tendon. We applied 4,000 shockwaves without anaesthesia using an electro hydraulic generator. We used a progressive pressure of 15-22 mV at 2 shocks/second. Prior to treatment, we extracted 30 cc of blood to obtain AGF that was activated and applied into the tendinous defect after ESWT. Patients started a rehabilitation protocol restraining jumping and running activities for three weeks, allowing walking short distances, and using open kinetic chain exercises.

We found a decrease in pain level and a faster return to athletic activity. Recurrence of pain was lower than with conventional ESWT. The pain relief pattern became occasional and episodic. Good or excellent results were reported by 79% of patients.

Combined ESWT & AGF bio surgery could be an excellent alternative treatment for large defects or degenerative areas of large tendons. Further studies must be done to recommend this protocol.