NEW METHOD OF NONINVASIVE SURGICAL TREATMENT OF PATELLOFEMORAL ARTHRITIS

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Patellofemoral arthritis/ arthrosis (PA) refers to the presence of degenerative changes under the kneecap (patella) with variable manifestations from the symptoms of pain in the anterior part of the knee to serious difficulties with climbing and movement along the stairs. Patellectomy was one of the first surgical procedures performed for PA. However, awareness of the importance of the biomechanical role of patella led to the development of alternative surgical procedures. The emergence of diagnostic and surgical technologies using arthroscopic instrumentation has opened up new opportunities for improving the diagnosis and treatment of knee joint lesions.

Objective: To develop and test a new method of minimally invasive surgical treatment of PA.

Materials and methods: We have developed a new method for minimally invasive surgical treatment of PA using arthroscopic instrumentation. The pain syndrome was assessed using a visual analogue scale of pain (VAS visual analogue scale). Statistical analysis was performed using SPSS software (SPSS, 21.0, Chicago, IL, USA).

Results. We have developed a new method of surgical treatment of patellofemoral pain syndrome using arthroscopy with modification. Treatment and monitoring of patients is carried out on the basis of the trauma department Pavlodar city clinic №1. 14 patients (8 females, 6 males, average age 59,1 ± 7,3 years) were surgically treated by our developed method (patent application No. 2017 / 0102.1), as well as 5 patients by method arthrotomy (3 females and 2 males, average age 60.9 ± 5.1 years). Clinical signs of the postoperative period were monitored. Follow up period is 3-6 month. Patients were asked to determine the extent of their pain with VAS, in which the "0" level was represented by the absence of pain and the "10" level was worse when the patients experienced severe pain. Night pain, walking pain, and climbing stairs were determined based on VAS as follows: no pain or negative (0 points) mild pain or +1 (1-4 points), moderate pain +2 (4-7 points), And severe pain +3 (7-10 points). Patients on admission had moderate to severe pain (VAS 7.59 ± 1.87). After applying the treatment developed by us, there was a significant reduction in the pain syndrome in the knee joint at discharge (VAS 3.43 ± 1.91, $p < 0.001$) and 3 months after surgery (VAS 2.18 ± 1.34, $p < 0.01$).

Conclusion. Thus, the method of minimally invasive surgical treatment developed by us allows maximum atraumatic removal of intraarticular growths at significant PA stages, as well as reducing the thickness of the patella, which leads to preventing the progression of degenerative-dystrophic changes.