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**Inflammation and clinical function related to synovectomy during primary total knee arthroplasty**

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**Statement of the Problem:** There is a controversy whether synovectomy must be done in primary total knee arthroplasty (TKA).

**Objective:** The objectivity of the study was to compare the effect of synovectomy on inflammation and clinical outcomes after surgical treatment of knee osteoarthritis.

**Methodology & Theoretical Orientation:** A total of 240 patients who underwent primary unilateral TKR were randomly divided into a group without (Group A) and with synovectomy (Group B). All operations were performed by the same surgeon and follow-up was for 4 years. Clinical outcomes (including American Knee Society score (AKS), SF-36, and HSS scores) serum inflammatory markers (including interleukin-6 (IL-6), CRP and ESR) and the difference in temperature of the affected knee skin, swelling, ROM, patients VAS satisfaction score and VAS pain score were sequentially evaluated until 4 years after surgery.

**Findings:** There were no statistically different clinical parameters between the two groups preoperatively. At the 4 years follow-up, both groups had a similarly significantly improved AKS clinical and functional score. Similar changes in serial inflammatory markers were identified in both groups. In addition, no difference was seen regarding drainage-fluid inflammatory markers at any follow-up time. There was no difference in respect to patients' satisfaction score from surgery to 1 year, but Group B showed greater patients satisfaction score from 2 years to four years, with less number of patients suffering from anterior pain. There was no difference regarding other parameters at any follow-up time.

**Conclusion & Significance:** Synovectomy in primary TKA does not seem to have any clinical advantage and shorten the duration of the inflammatory response, but it might increase patient satisfaction score and reduce anterior knee pain.

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**Notes:**