Paper #52

Anterior Capsulectomy vs. Repair in Direct Anterior Total Hip Arthroplasty

Notes

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Introduction: Utilization of the direct anterior approach for total hip arthroplasty (DAA THA) has increased over the last ten years. The preservation and repair of the anterior hip capsule has been recommended while anterior capsulectomy has been described by others. In contrast, the higher risk of posterior dislocation using the posterior approach improved significantly after capsular repair. No studies to date have investigated outcome scores based on capsular repair versus capsulectomy for the DAA.

Methods: Patients randomized to anterior capsulectomy or anterior capsule repair. Patients were blinded to their randomization. Maximum hip flexion was measured both radiographically and clinically with a goniometer. Using a one-sided t-test assuming equal variance with an effect size, Cohen's d, of 0.6 and an alpha of 0.05, 36 patients in each group (total 72 patients) needed for a minimum 80% power.

Results: Median goniometer measurements for the two groups preoperatively were 95° for Repair (IQR 85-100) and 91° for Capsulectomy (IQR 82-97.5) (p=0.53). Four months and 1-year goniometer measurements also had no significant difference, 110° (IQR 102-115) and 110° (IQR 105-120) for Repair, and 105° (IQR 96-116) and 109.5° (IQR 102-120) for Capsulectomy (p=0.44 and p=0.51). Median change in flexion as measured by goniometer at 4 months and 1 year was 13° and 15° for Repair and 10° and 14.5° for Capsulectomy (p=0.61 and p=0.85). X-ray analysis also showed no differences in pre-op, 4-month, and 1-year flexion with median 1-year flexion of 105.5° (IQR 96-109.5) for Repair and 100° (IQR 93.5-112) for Capsulectomy (p=0.35). VAS scores were the same for both groups at all three time points. HOOS Functions of Daily Living Scores also did not vary between groups at any time point. No differences in surgeon randomization, age, or gender.

Conclusions: Both capsular repair and capsulectomy used in direct anterior approach THA result in equal maximum clinical as well as radiographic hip flexion with no change in postoperative pain or HOOS scores.
