Triamcinolone Acetonide Extended Release Injection does not Increase the Risk of PJI after Total Knee Arthroplasty

Caleb Durst[1], Andrew I Spitzer[2]
[1]Cedars-Sinai Medical Center, [2]Cedars-Sinai Department of Orthopaedic Surgery

INTRODUCTION:
Triamcinolone Acetonide Extended Release (TA-ER) is a novel injectable for treatment of knee osteoarthritis. Its extended intraarticular residence time poses concern for periprosthetic joint infection (PJI) in patients who progress to Total Knee Arthroplasty (TKA). The purpose of this study was to analyze one-year PJI rates in patients who received TA-ER before surgery. We also compared infection rates in patients who received preoperative corticosteroid (CS) and hyaluronic acid (HA) injections.
METHODS: Patients ($\geq$18 years) who underwent unilateral primary TKA for osteoarthritis between 2018–2022 with minimum 1 year follow-up were identified within the PearlDiver database. We compared one-year rates of revision TKA for PJI between patients who received TA-ER, HA, CS, or no injection within one year before surgery. PJI rates were also compared amongst patients who received injections within 3 months of TKA. Categorical variables were compared using the chi-squared test.
RESULTS:
Of the 525,774 patients included in this study, 383,248 received no injection. 142,526 received an injection within one year of surgery of which 1,687 received TA-ER, 113,707 CS, and 27,132 HA. The PJI rate in the no-injection group was 0.35%. PJI rates for TA-ER (0.30%) and HA (0.36%) were similar to the no-injection group; whereas, the rate for CS patients was significantly higher (0.41%; P = 0.008).
33,126 patients were injected within 3 months of surgery. 229 received TA-ER, 28,224 CS, and 4,673 HA. PJI rates for TA-ER (0.44%) and HA (0.32%) were similar to the no-injection group, but the rate for CS patients (0.45%; P = 0.009) was higher.
DISCUSSION AND CONCLUSION: TA-ER injected within one year before TKA does not increase the risk of revision for PJI within one year following TKA. Furthermore, this risk profile is similar to HA and to a no-injection cohort, even when administered within 3 months of surgery.