9) TITLE: **A Double-Blind, Randomized, Placebo-Controlled Study of Perioperative Administration of Olanzapine to Prevent Postoperative Delirium in Joint Replacement Patients**

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INTRODUCTION: Delirium is prevalent (25% to 60%) in joint replacement patients and is associated with an increased risk of death, a prolonged length of stay, higher hospital costs, and cognitive dysfunction.

OBJECTIVE: The aim of this study was to determine (1) whether olanzapine would reduce the incidence of delirium in high-risk joint replacement patients, and to determine whether such treatment reduces (2) morbidity and (3) costs.

METHODS: We invoked a double-blind, randomized, two-arm prospective, placebo-controlled design involving preoperative screening for high risk patients, prophylactic treatment with olanzapine or placebo, daily monitoring of cognitive function and medical complications, as well as determination of disposition.

RESULTS: Four hundred patients completed the study. While analyses are still ongoing, results have showed a clinically significant decrease in the incidence of delirium in the group who received the study drug.

CONCLUSION: In addition to decreasing the incidence of postoperative delirium, the active drug group (that received olanzapine 10 mg perioperatively) also had significantly lower DRS-R98 scores during the first 5 postoperative days, required lower doses of narcotics, and were more likely to be discharged to home (than to a rehabilitation facility) than the placebo group. A traditional survival analysis (Kaplan-Meier Plot) with the time to the first day of delirium (comparing drug vs. control groups), as well as outcomes following knee and hip surgeries, confirmed the benefits of administering a prophylactic antipsychotic.

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