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**A Single Intraoperative Sub-Tenon's Capsule Triamcinolone Acetonide and Ciprofloxacin in a Micro-Particule Controlled Release System (Duo-Cat) Injection for the Treatment of Post-Cataract Surgery Inflammation**

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**Purpose:** To compare the potential of a single intraoperative sub-Tenon's capsule Duo-Cat (25mg triamcinolone acetonide and 1.5mg ciprofloxacin in a biodegradable micro-particule controlled release system) injection with dexamethasone-ciprofloxacin drops for the treatment of ocular inflammation after cataract surgery. **Methods:** A randomized, double-masked controlled trial. A total of 50 patients that underwent phacoemulsification and intraocular posterior lens implantation were randomized prospectively into 2 groups: 25 patients treated with dexamethasone-ciprofloxacin eye drops according to the following schedule: 1 drop 4 times daily (week 1), 3 times daily (week 2), 2 times daily (week 3), once daily (week 4) (control group A) and 25 patients treated with single intraoperative sub-Tenon's capsule Duo-Cat injection (treatment group B). To mask the study, group B received vehicle drops administered on a similar schedule, and group A received a similar injection of the polymer containing no drug. The main outcome measures included inflammation (cell, flare, ciliary flush), intraocular pressure, and lack of response. **Results:** Duo-Cat was shown to have anti-inflammatory efficacy clinically equivalent to conventional dexamethasone-ciprofloxacin eye drops in reducing intraocular inflammation, as measured by clinical methods. Duo-Cat was found to be as safe as the dexamethasone-ciprofloxacin drops in terms of adverse effects, changes in visual acuity, intraocular pressure, and biomicroscopic and ophthalmoscopic variables **Conclusions:** A single intraoperative Duo-Cat sub-Tenon's capsule injection demonstrated a clinically equivalent therapeutic response and ocular tolerance to dexamethasone-ciprofloxacin drops in controlling postoperative inflammation following uncomplicated cataract surgery. This new approach may anticipate the reality of no need for postoperative medication in the modern cataract surgery era and merits further evaluation.