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Intraocular Pressure in Steroid Injections

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Periocular steroid injection is an effective mode of treating uveitis, mostly without inducing steroid systemic side effects. Concern about globe perforation and about efficacy have prompted some to recommend a technique first popularized by Schlagel, injecting with a long 25 gauge needle along the surface of the eyeball, superotemporal, subTenon's, after the application of a pledget of topical anesthetic, and making a "sweeping" motion with the needle after penetration into Tenon's space in order to demonstrate that the globe had not been impaled on the tip of the needle. But patient acceptance of this style of periocular steroid injection, in our experience, is considerably less than for the technique of periocular injection with a short, 27 gauge needle through the preorbital septum just superior to the inferior orbital rim. Performed properly, elevating the globe slightly with a the nondominant index finger and also making a small sweeping motion after penetration of the septum, again to ensure that the sclera or globe has not been impaled on the tip of the 30 gauge needle, this method can be effectively employed for repeated injections, even for care of children as young as six years old. The technique has been hypothesized by some to be less effective therapeutically and more given to steroid-induced pressures. We evaluated the intraocular pressure responses to transeptal periocular steroid injections as well as efficacy in a well-characterized, carefully followed group of patients with pars planitis. We identified 20 patients with no previous history of glaucoma, with minimal anterior chamber inflammation, and hence no need for use of topical or systemic steroids at the time of periocular injection for the active pars planitis. The patients were followed for a prolonged time, and their response to therapy (Snellen acuity, inflammation at the pars plana, and cystoid macular edema) as well as sequential intraocular pressure profiles were determined. The injections were given employing 40 milligrams of triamcinolone acetonide mixed with 0.5 of 2% lidocaine without epinephrine. The injections were administered in the manner described above. The average age of the patients was 31.7 years (range 11.68). Twelve patients received a single injection and 8 received a second injection over the three month period following the first injection. Three of the patients had received a prior injection of steroid before being included in this trial. The mean increase in intraocular pressure at two weeks following injection was 1.1 mm Hg at six weeks post injection the mean IOP increase was 1.3 mm Hg. At three months post injection there was an average reduction in IOP of 0.3 mm Hg. The Snellen acuity improved an average of 2.1 lines at the six week and three month visits. Seventy-nine percent of the patients had achieved visual acuity of 20/40 or better, and this maintained at the three month follow-up visit as well; the improved acuity was secondary

to reduction in cystoid macular edema. We conclude that the anterior transeptal route of administering periocular steroid in patients with intermediate uveitis showing no propensity for IOP elevations from past steroid use is both safe and effective, without evidence of a significant risk of provoking elevations in intraocular pressure, unlike several reports of this complication following the posterior subTenon's route of administration.