



A STUDY TO OBSERVE EFFICACY OF POSTERIOR SUB TENON INJECTION OF TRIAMCINOLONE ACETONIDE (TA) IN DIABETIC MACULOPATHY AND CYSTOID MACULA EDEMA

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ABSTRACT

To compare pre and post macula thickness after single posterior sub-Tenon's triamcinolone acetonide on progression of macular edema in diabetic patients and cystoids macula edema. The objectives were to compare the change in the central macular thickness (CMT) between macular edema in diabetic patients and cystoids macula edema. This was prospective study based on investigation; was performed on 44 eyes of treated between 2016 to 2017 for macular edema in diabetic patients and cystoids macula edema. In 44 eyes injected with 20 mg of TA, the mean central macular thickness was 530 +/- 103.73 μ SD before treatment. There was significant difference between before and after treatment the two groups (P=6.2, ANOVAs Single Factor). Follow up 15 days After Giving injection, it was 427.34 +/- 115.19 μ in injected eyes (Anova, single factor test) and after 30 days, the respective values were 339.79 +/- 126 μ (ANOVA Single Factor Test). I.e. statistically significant when difference between two follow up after giving treatment.

KEY WORDS: Triamcinolone Acetonide, clinical significant macula edema., Cystoid macular edema, clinical significant macular edema

INTRODUCTION

Diabetes is the name used to describe a metabolic condition of having higher than normal blood sugar levels. There are different reasons why people get high blood glucose levels and so a number of different types of diabetes exist. Majority of diabetic patients have retinopathy of varying severity, approximately 25% of the diabetic patients have sight-threatening levels of retinopathy with legal blindness (best corrected visual acuity of 20/200 or worse) being 25 times more common in the diabetic when compared to the non-diabetic population. The common causes of visual impairment in diabetic retinopathy include macular edema and complications due to proliferative retinopathy¹. Macular edema can be treated with macular photocoagulation, sub-Tenon's triamcinolone

acetonide steroids or anti-vascular endothelial growth factor (VEGF) agents².

MATERIAL & METHODOLOGY

It was an observation based prospective study done at Surat retina Foundation hospital; Surat with purposive sample of 44 eyes of patients who fulfilled the inclusion criteria to evaluate pre and post macula thickness after single posterior sub-Tenon's triamcinolone acetonide on progression of macular edema in diabetic patients and cystoids macula edema. In present study Preoperative Assessment includes were Patient's Demographic data, detailed history, Study participants had a detailed eye examination including, visual Acuity by Snellen's chart, slit lamp examination and funduscopy (78D, indirect ophthalmoscope). Patient's macular thickness



measurement was taken with optical coherence tomography (OCT).

For treatment, the procedure was carried out in the outpatient clinic. The eye was cleaned. A small opening made in conjunctiva. A cannula was inserted and curves around the eye the drug injected. There was no need for stitches.

Post invasive examinations were performed 15 & 30 days after sub-Tenon's triamcinolone acetonide. All subsequent Post invasive examinations were designated 30 days after sub-Tenon's triamcinolone acetonide.

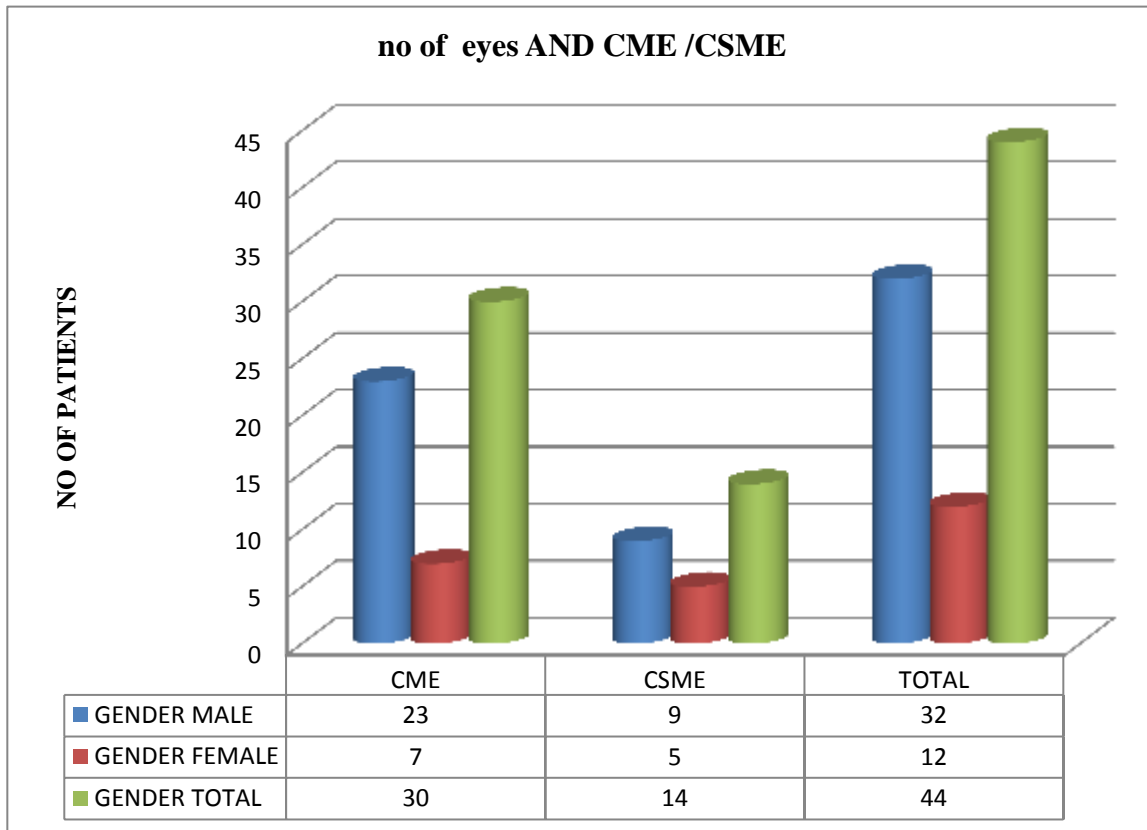
RESULTS

44 patient's eyes with Diabetic retinopathy and cystoids macula edema and agreed for sub-Tenon's triamcinolone acetonide injection. The population included was 28 males and 16 females subjects ranged from 40 to 70 years of age.

Pre operatively In 44 eyes injected with 20 mg of TA, the mean central macular thickness was $530 \pm 103.73 \mu$ SD before treatment.

•There was significant difference between before and after treatment the two groups ($P=6.2$, ANOVAs Single Factor).

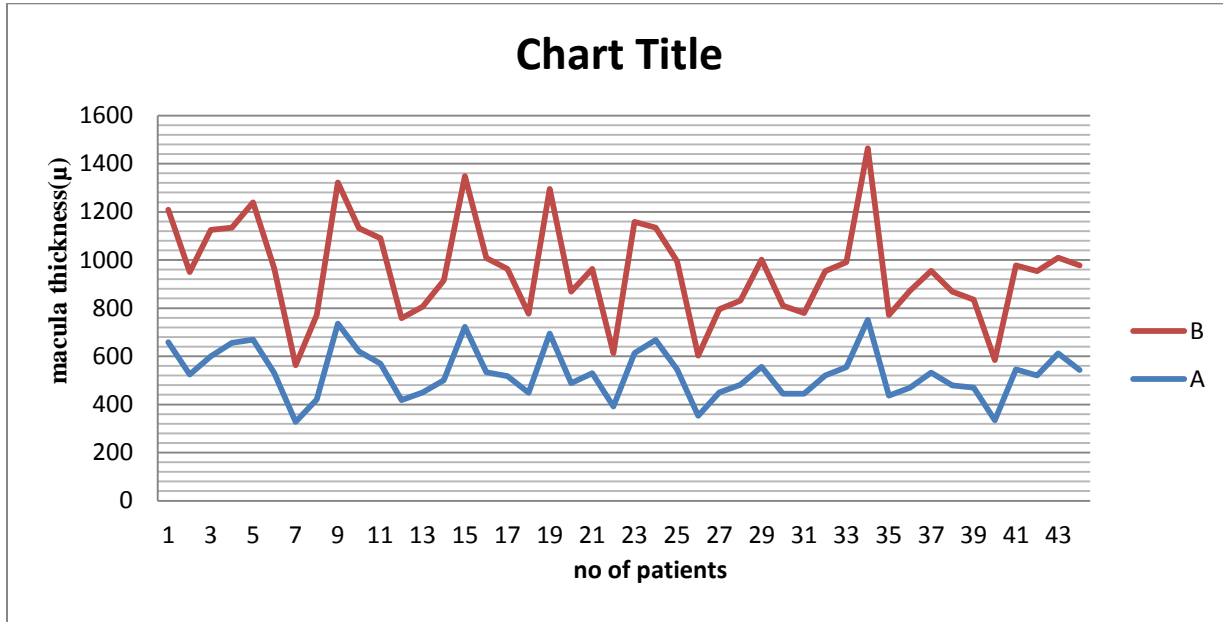
•Follow up 15 days After Given injection, it was $427.34 \pm 115.19 \mu$ in injected eyes (Anova, single factor test) and after 30 days, the respective values were $339.79 \pm 126 \mu$ (ANOVA single Factor Test)



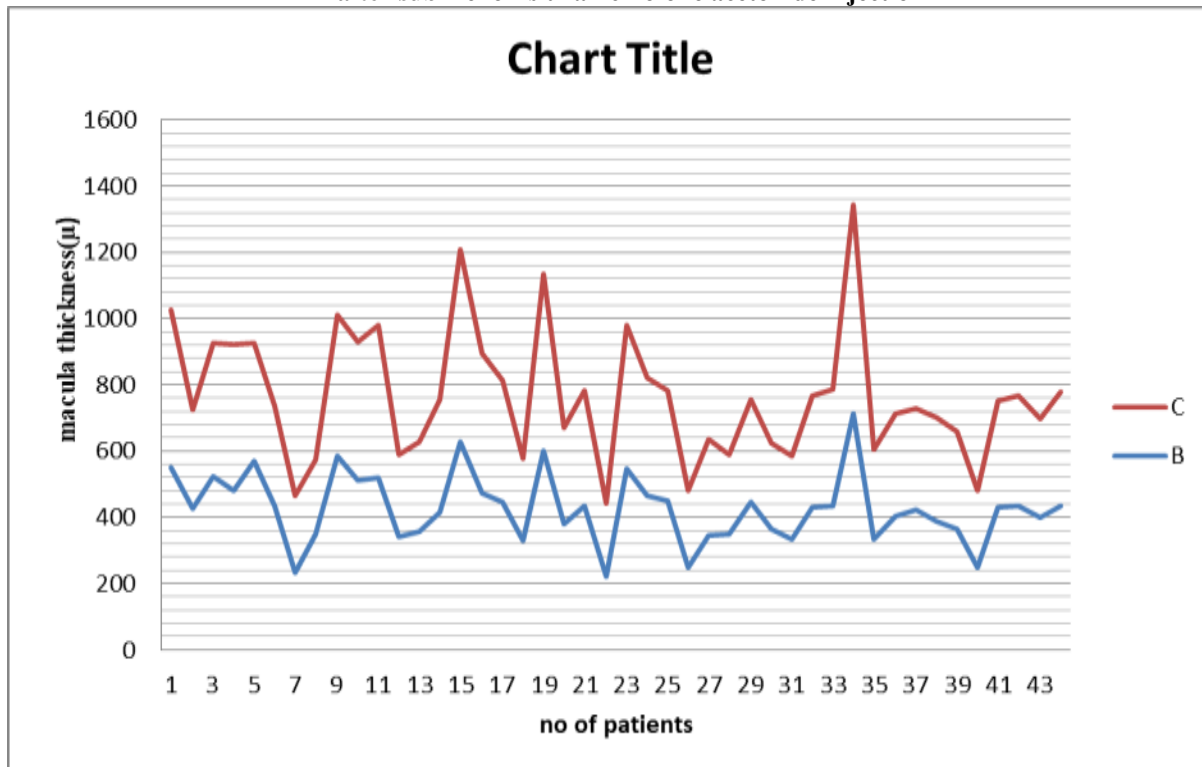
Graph : I. gender criteria on CME and CSME



Graph: A : A-(BEFORE TREATMENT) B-[1st FOLLOW UP (15 DAYS)] follow-up treatment comparison after sub-Tenon’s triamcinolone acetonide injection



Graph: B: (-[1st FOLLOW UP (15 DAYS)], - [2st FOLLOW UP (30DAYS)] follow-up treatment comparison after sub-Tenon’s triamcinolone acetonide injection





In 44 eyes injected with 20 mg of TA, the mean central macular thickness was $530 \pm 103.73 \mu$ SD before treatment. There was significant difference between before and after treatment the two groups ($P=6.2$, ANOVAs Singal Factor). Follow up 15 days After Given injection, it was $427.34 \pm 115.19 \mu$ in injected eyes (Anova, single factor test) and after 30 days, the respective values were $339.79 \pm 126 \mu$ (ANOVA Singal Factor Test)³.

Toda J1, Fukushima H14, Kato S the mean central macular thickness +/- SD was 624.8 ± 173.7 micron before treatment. In the fellow eyes, it was 452.8 ± 235.2 micron. There was no significant difference between the two groups ($P=0.10$, unpaired t-test). One month after injection, it was 434.0 ± 120.7 micron in injected eyes ($P=0.017$, paired t-test) and 462.2 ± 232.7 micron in fellow eyes ($P=0.70$, paired t-test), and after 3 months, the respective values were 423.1 ± 186.3 micron ($P=0.052$, paired t-test) and 478.3 ± 269.1 micron ($P=0.65$, paired t-test).reduces macular thickening due to DME, at least in the short term.

YilmazT1, WeaverCD, GallagherMJ, Cordero-ComaM, CervantesCastaneda RA, Klisovic D, Lavaque AJ, Larson RJ⁵ the 4 randomized clinical trials comparing IVTA injection with placebo or no treatment, IVTA injection demonstrated greater improvement in VA at 3 months, but the benefit was no longer significant at 6 months. Those who received IVTA injection had significantly higher IOP at 3 months and at 6 months. In the 2 randomized clinical trials comparing IVTA injection with STTA injection, IVTA injection demonstrated greater improvement in VA at 3months, but not at 6months. Intravitreal triamcinolone acetone injection demonstrated no difference in IOP at 3 months or at 6 months.

CONCLUSION

Injection of 20 mg of TA into the posterior sub-Tenon capsule effectively reduces macular thickening due to DME and CME, at least in the short term.

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