Original Article

INTRA VITREOUS BEVACIZUMAB VERSUS OBSERVATION IN ACUTE CENTRAL SEROUS CHORIORETINOPATHY.

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ABSTRACT:

OBJECTIVE: To compare the efficacy of intravitreal bevacizumab for absorption of sub-retinal fluid in central serus chorio retinopathy from observation alone.

ABSTRACT: It was a retrospective study of 34 patients with acute central serous chorioretinopathy. Patients were divided in two groups. Group A of 17 patients with anti VEGF treatment and group B of 17 patients with observation alone. Central foveal thickness and resolution of sub retinal fluid on OCT were assessed to determine the resolution of central serous retinopathy.

RESULTS: Resolution of sub retinal fluid was observed in all patients, in anti VEGF group A as well as in group B patients at 12 months.

CONCLUSION: In terms of resolution of sub retinal fluid anti VEGF as well as observation alone had similar therapeutic effects in acute central serous chorioretinopathy.

KEY WORDS: Anti-VEGF, observation, central serous chorio retinopathy.

INTRODUCTION:

Central serous chorio retinopathy is a serous detachment of retina that usually occurs at macula. Risk factors include people with stress , people with type A personality, patients with hypertension, pregnant ladies and those patients who are on systemic steroids.[1,2,3].
It usually involves patients between 30 to 50 years of age group and men are affected twice as women.[4,5]
Regarding mechanism of central serous chorioretinopathy exact pathological disturbance is not known but it has been proposed that it may be due to abnormality in choroid venous system.[6,7,8] Central serous chorio retinopathy is traditionally treated by observation alone. Another treatment option is laser photocoagulation to seal the site of leakage.[9]
Vascular endothelial growth factor is a growth factor which is produced by retinal and choroidal cells which are damaged by ischemia. It has got effects for increasing permeability of vessels and it produces edema in target tissues.[10]
Intravitreal injection of Bevacizumab was recently applied to reduce neurosensory detachment in acute central serous chorio retinopathy.[11]
The purpose of this study is to evaluate the one

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year efficacy of intra vitreous Bevacizumab injection as treatment for acute central serous chorio retinopathy.

MATERIAL AND METHODS:

It was a retrospective study of 34 eyes of 34 patients suffering from acute central serous retinopathy. All these patients were under treatment at Ophthalmology Department of Madina Teaching Hospital Faisalabad between January 2013 to December 2015. Inclusion criteria included central serous chorio retinopathy with foveal involvement determined with clinical examination, OCT and active leakage during FFA and symptoms of patients. Patients who had evidence of choroidal neovascularization or other maculopathies with exudation or any other macular disease were excluded from study. Patients were divided into two groups. Group A received bevacizumab injection and Group B was observed alone. Informed consent was taken from all patients. All patients were examined with dilated fundoscopy, color fundus photography, FFA and OCT. A 6mm × 6mm horizontal and vertical area of macula was observed with OCT scan. Patients were examined after the drop of a mydriatic eye drop. Central foveal thickness was measured. All patients in group A received a single dose of Bevacizumab intravitreous injection to start with. All intravitreal injections were performed in operation theatre under full aseptic conditions. Topical anesthesia was applied. A 30 gauge needle was inserted through the pars plana and 1.25 mg per 0.1 ml of bevacizumab injection in mid vitreous cavity was given. Topical antibiotic four times daily for one week after injection was prescribed. All patients were followed at 1,3,6,9 and 12 months with dilated fundoscopy, color photography, FFA and OCT scan. All data was analyzed using 24th version of SPSS. A P value of less than 0.05 was considered statistically significant.

Resolution of sub retinal fluid.

Mean time from baseline to complete resolution of sub retinal fluid was significantly shorter in the anti-VEGF group 2±0.7 months than in observation group 8±1.4 months. In the anti VEGF group in 15 out of 17 eyes sub retinal fluid was completely absorbed on OCT at about one month. In remaining two eyes sub retinal fluid had completely absorbed at 03 months follow up. In observation group B complete resolution of SRF on OCT was achieved in 4 out of 17 eyes at one month period. Sub retinal fluid completely absorbed in 6 eyes in this group at 3 months and remaining 7eyes healed at 6 months time. In group A the absorption of sub retinal fluid was statistically significantly higher (P <0.1) as compared to group B at one month.

RESULTS:

We performed a retrospective study of 34 eyes. 17 patient's eyes in group A with Bevacizumab injection and 17 with observation alone. All patients completed 12 months follow up. Group A consisted of 17 patients with anti VEGF treatment and Group B consisted of 17 patients with observation alone.

Analysis of demographic data on sex, age and duration of symptoms showed no significant difference between two groups. Regarding central foveal thickness, no significant difference of baseline central foveal thickness was noted between two groups.

Table no1.
Baseline features of patients with central serous chorio retinopathy.

Baseline features	Group A	Group B
No. of patients	17	17
Age	43±8	45±8
Sex(male/female)	11/6	11/6
Mean cft(micro meter) µ	488.2	472.1

Cft = central foveal thickness Mean CFT values are statistically same (P< .471)

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Table no2.
Resolution of sub retinal fluid on OCT during follows up.

Fluid absorption	Group A total 17 patients	Group B Total 17 patients
At one month	15	4
At three month	02	6
At six months	0	7

DISCUSSION:

Central serous retinopathy has long been managed with observation alone. A potential benefit of early resolution of sub retinal fluid is less chance for development of retinal pigment epithelium degeneration. Focal laser photocoagulation has been used successfully for its treatment but with a potential for damaging the retina, retinal pigment epithelium[12,13].

Vascular endothelial growth factor has an important role in increasing vascular permeability in pathogenesis of central serous retinopathy. Its direct mechanism of action during this pathogenesis is yet to be known. Choroidal ischemia may cause an increase of VEGF. Lim at al.[14] demonstrated that aqueous VEGF level increased in chronic CSR patients.

Several reports indicate that intravitreal anti VEGF Bevacizumab injection improves vision and reduces neurosensory detachment in CSR patients[15,16].

To compare the efficacy of intra vitreous anti VEGF injection for acute CSR we searched results of other treatment options in several published studies[17,18,19].

Similar results were found between various studies.

The resolution of sub retinal fluid and neurosensory detachment resolution in this study was similar to previously reported studies.

CONCLUSION:

Based on this study it is suggested that decreasing the duration of neurosensory detachment with help of Bevacizumab could result in earlier resolution of neurosensory detachment and reduction of photoreceptor damage which will result in long term improvement in visual acuity.

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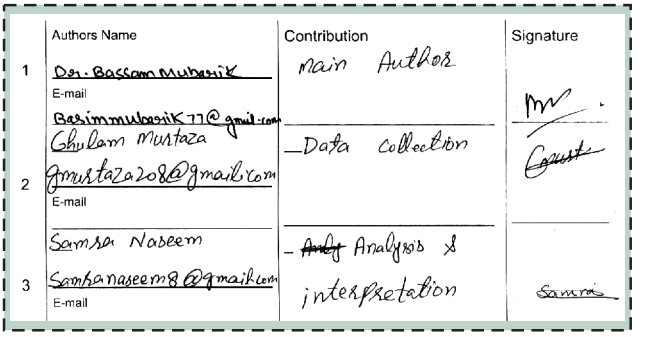

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