CASE REPORT

Role of Intravitreal Injection Bevacizumab (Avastin) In a Case of Choroidal Osteoma - Extremely Rare Choroidal Neoplasm: A Case Report

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ABSTRACT
In the present case report we describe a rare case of a 34-year-old male patient with a history of painless progressive loss of vision over several months. There was abrupt blurring of central vision with distortion. This case report highlights the step wise approach to diagnose a case of choroidal osteoma presenting with progressive loss of vision and its management by intravitreal injection Bevacizumab (Avastin) leading to favourable results
Keywords – Choroidal, osteoma, intravitreal, Bevacizumab, Avastin, case report

INTRODUCTION

Choroidal osteomas are rare benign ossifying tumors that appear as irregular slightly elevated, yellow-white, juxtapapillary, choroidal mass with well-defined geographic borders, depigmentation of the overlying pigment epithelium; and with multiple small vascular networks on the tumor surface.

Visual loss results from three mechanisms: Atrophy of the retinal pigment epithelium overlying a decalcified osteoma; serous retinal detachment over the osteoma from decompensated retinal pigment epithelium, and most commonly from choroidal neovascularization

Recent evidence points to the beneficial effects of Intravitreal Anti Vascular Endothelial Growth Factor (Anti VEGF) in improving visual acuity in serous retinal detachment with or without choroidal neovascularization.[1]

Here we discuss a rare case of choroidal osteoma and its treatment with intravitreal injection Bevacizumab (Avastin)

CASE PRESENTATION:

A 34 year old male came with complaint of painless progressive loss of vision over several months.

It was abrupt in onset onset and there was blurring of central vision along with distortion

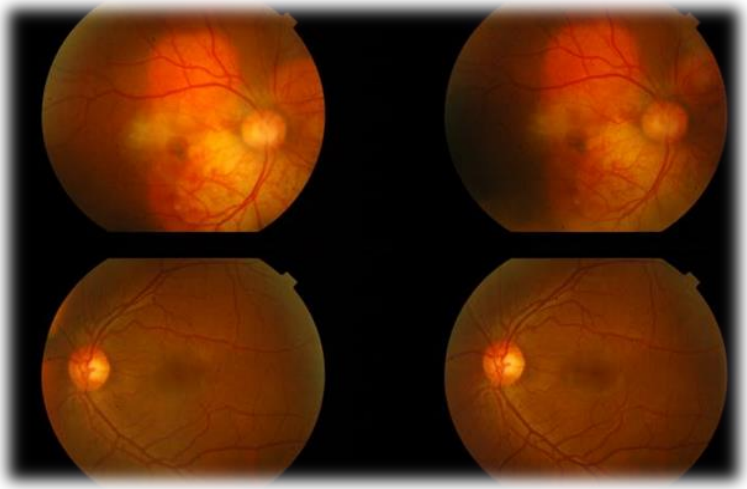
- no history of any systemic illness, no history of ocular trauma and surgery, no history of prolonged use of any eye drop

A thorough general and systemic examination was done and was found to be within normal limits

On ocular examination

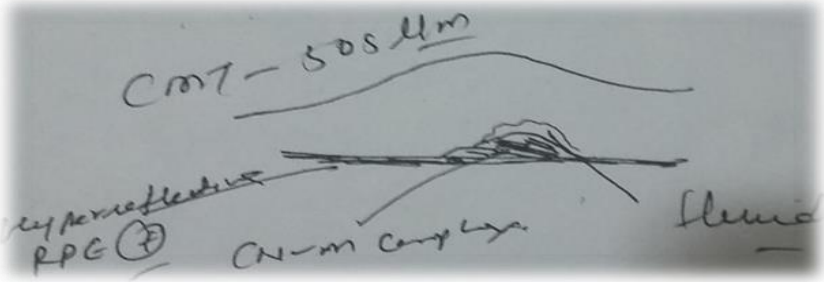
- Visual acuity was 6/36 OD & 6/6 OS and near vision was N8 OD & N6 OS
- Extraocular movement was normal
- Intra Ocular Pressure by Applanation Tonometry was 18mmhg and 19mmhg for RE and LE respectively
- Slit Lamp Examination of anterior segment of both eyes including pupillary reaction was within normal limit

Indirect Opthalmoscopy- A large white well defined juxtapapillary subretinal lesion involving macula (OD) Fundus photograph

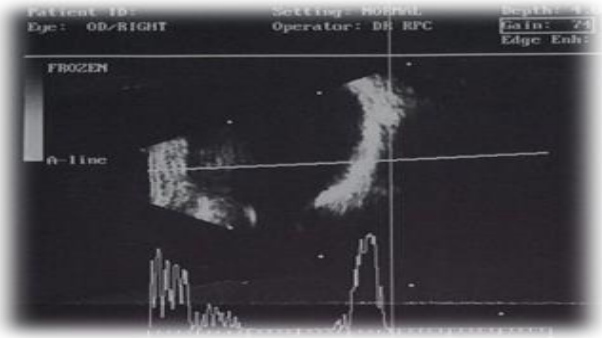


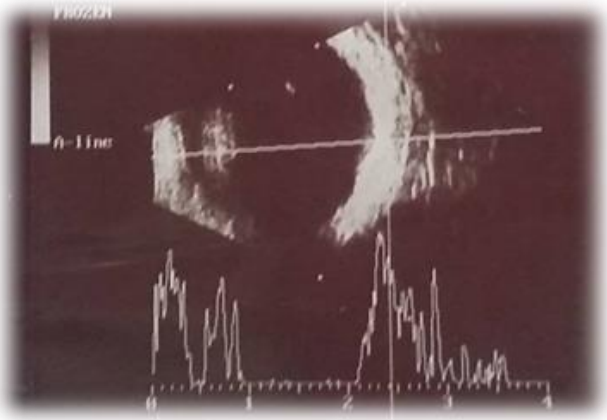
OD OS

OCULAR COMPUTED TOMOGRAPHY (OCT)



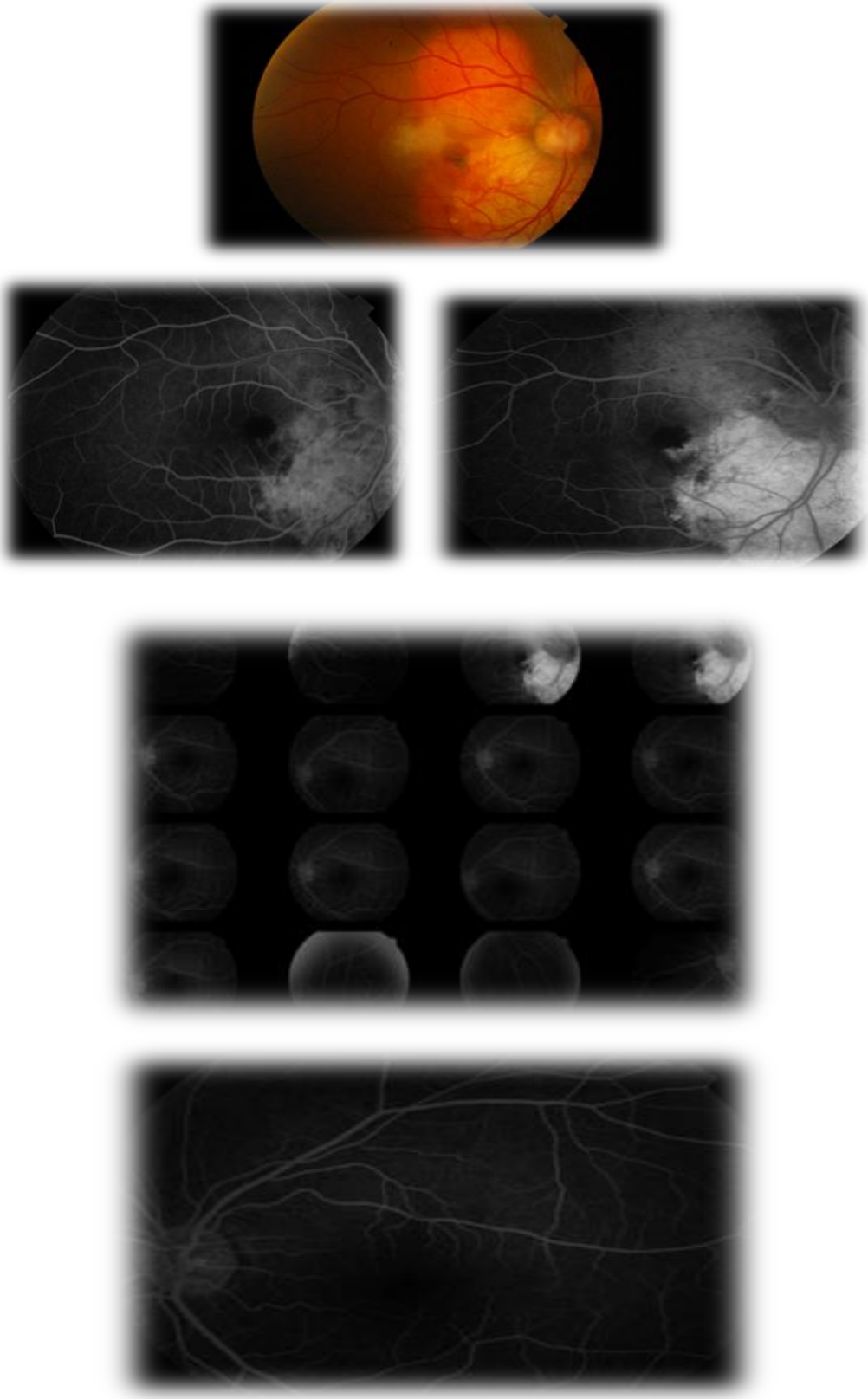
USG B-SCAN





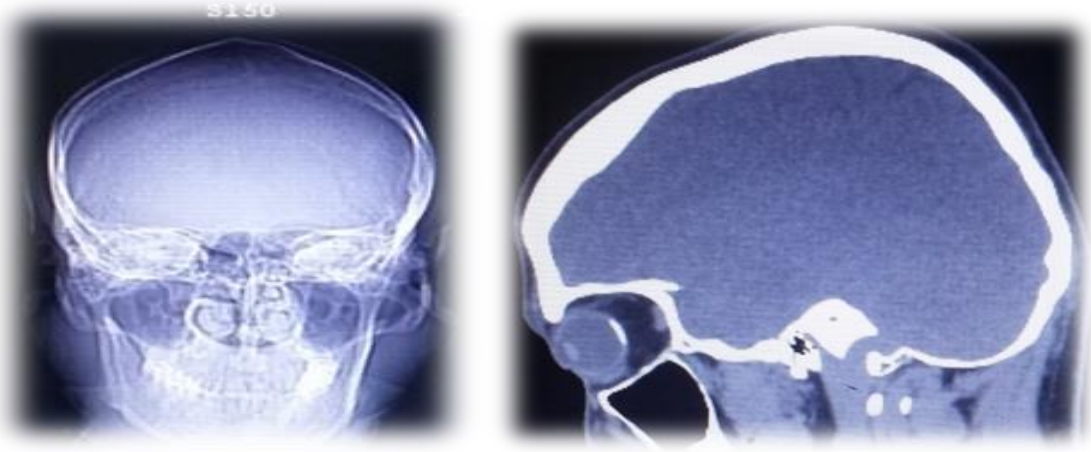
Highly reflective plate like lesion that shadow the orbit. Suggestive of subchoroidal calcification is seen in right eye.

FUNDUS FLOURESCEIN ANGIOGRAPHY (FFA)
OD



FFA (OD) shows early, patchy hyperflouresence with intense late staining

CT ORBIT



CT Scan reveals curvilinear calcification at the posterior aspect of the right globe

INVESTIGATION

Blood RE – Normal
HB-16.8 gm%
ESR-4 mm of AEFH
RBS-75 mg%
LFT-Normal
Thyroid Function Test – Normal
Lipid Profile- Normal
Chest XRAY (PA View) – NORMAL

DIAGNOSIS

- CHOROIDAL OSTEOMA INVOLING MACULA(OD MANAGEMENT

Intravitreal Injection Bevacizumab (Avastin) was given right eye under all aseptic and antiseptic precaution. Ac paracentesis also done. Advised P & D for 4 hrs.

Medication:

Tab Diamox Sig: 1 tab stat & HS
Moxifloxacin eye drop 4 times R/E for 4 weeks
Patient was advised another 2 doses of Bevacizumab (Avastin) at 6 weeks interval.
Six weeks after the 3rd dose of Intravitreal Injection of Bevacizumab (Avastin)
BCVA OD improves 6/12(p) from 6/36
IOP : WNL
OCT shows CMT improves 505 to 389 micro mm (OD)
Patient is now on regular follow up

RESULTS

The staged approach to diagnose and management of Choroidal osteoma right eye of this patient with intravitreal injection Bevacizumab (Avastin) wielded excellent result. The patient experienced a significant improvement in the visual acquity

DISCUSSION

- Choroidal osteomas are rare, ossifying tumors that classically occur as unilateral lesions affecting middle-aged women. In two of the largest long-term studies involving choroidal osteomas, analysis of 36 and 74 patients over a period of 10 and 26 years respectively, revealed bilateral lesions in only 25% of the cases with 67%–89% affected being female.,
- Loss of visual acuity in choroidal osteomas is most commonly attributed to decalcification occurring from disruption of the tumor. Subsequently, the insult may result in damage to the Retinal Pigment Epithelium (RPE), Choroidal Neovascularization (CNV), and appearance of sub retinal fluid and/or hemorrhages.

Management of CNV associated with choroidal osteomas is a challenging issue. Various treatments have included laser photocoagulation, surgical removal of CNV and Trans Pupillary Thermal Therapy (TTT) but have achieved limited success [2]

Since the approval of anti-VEGF intravitreal injections in Age Related Macular Degeneration (ARMD), several reports have emerged about the use of bevacizumab and ranibizumab in the treatment of CNV associated with choroidal osteoma. Ranibizumab or bevacizumab intravitreal injections resulted in regression of CNV, resolution of associated subretinal fluid and improvement in visual acuity

CONCLUSION

To conclude, choroidal osteoma is a rare benign ossifying tumour of the choroid. Understanding the disease and how to appropriately investigate those who present it are important to avoid incorrect diagnosis.

We present a case with SRF with early CNV which is documented through multiple imaging modalities.

We have monitored the patient for more than six months and found that there has been no significant progression in SRF, increase development of CNV, or decrease in VA.

The improvement in VA following treatment with Bevacizumab (Avastin) with no further decline in VA after treatment.

Management of choroidal osteoma with anti-VEGF are promising and a recent study demonstrated that anti-VEGF treatment alone had a favoured outcome in the anatomy of the area and modest improvement in visual acuity.

Conflict of interest: Nil
Financial interest: Nil

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