

Clinical profile and study of non-AMD CNVM patients management with anti-VEGF

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Abstract

Aim: To know clinical profile and study non-AMD CNVM in view of Type, location, FFA, characteristics Demography, incidence and the causes.

To know clinical response of conventional and PRN Anti-VEGF

Result:

Type : 14(30.4%) Myopic cnvm, 11(23.9%) Idiopathic cnvm, 9(19.5%) PFT, 4(8.7%) Inflammatory, 3(6.5%), Angiod streak, 2(4.3%), choroidal osteoma with CNVM 2(4.3%) CSR with cnvm, 1(2.2%) Traumatic cnvm.

Location: Extrafoveal (2), Sub foveal (27), Peripapillary (1), juxta foveal (14), Unifocal (42), multifocal (3)

FFA: Classic 39(84.7%), Occult cnvm 4(8.7%), Undifferentiated 3(6.5%).

Demography: Average age 49.6 yrs., range (20 – 64 yrs.)

Interpretation: 6 eyes responded to 1 dose. 10 eyes had response to second doses of anti VEGF and 21 eyes had response to 3rd dose. 9 eyes didn't respond to 3 dosages. 2 eyes responded to PDT. Single eye responded to high dose of steroid. 4 eyes remain non responded to treatment.

Conclusion: Myopic CNVM eyes showed full response after 1 to 3 dosages of anti-VEGF. Non-AMD cnvm eyes respond well to Anti VEGF alone, adding few more respond to added PDT. Inflammatory CNVM require steroid treatment.

Keywords: Optical coherence tomography (OCT), Fundus Fluorescein Angiography (FFA), Choroidal neovascular membranes (CNVM)

Introduction

Other than AMD¹, choroidal neovascularization (CNV) may develop in conjunction with a number of other disorders. Pathological myopia, uveitis, central serous chorioretinopathy, angioid streaks, choroidal osteoma, inherited chorioretinal illness, and Iatrogenic conditions² are some of these. Depending on the underlying aetiology of the disease, the initial stimulus that triggers the formation of CNV is complex and varies³. Because CNV associated with non-AMD disorders frequently affects patients at a younger age, some of them may have employment restrictions that result in significant financial losses and emotional distress⁴. It is now well known that VEGF plays a significant role in the pathogenesis of CNV, regardless of the triggering stimuli involved in its development⁵.

Inclusion Criteria

Patient of age 20 – 64 years were taken.

Exclusion Criteria

- CNVM > 55 years old with drusen and another eye's cnvm or dry AMD
- Any CNVM that has undergone prior treatment.
- Media opacities in cases where FFA is ambiguous.
- Minimum 6-month follow-up.
- RAP was disregarded in cases where PCV was clinically detected.

Material And Methods

A hospital based prospective study and clinical trial was done with 46 eyes.

Source of Data: Patients who visited the outpatient ophthalmology department of a tertiary care facility were the subjects of this study. It ran from November 2017

until March 2019. The institutional ethics committee gave its approval for this work.

Sample size: 46 eyes from 41 patients.

Results

Table 1: Type of Non- AMD CNVM

Types Of Non-AMD CNVM	Number of Cases	Percentage
Myopic CNVM	14	30.4
Idiopathic CNVM	11	23.9
PFT	9	19.5
Inflammatory	4	8.7
Choroidal osteoma with CNVM	3	6.5
Angiod streak	2	4.3
CSR with CNVM	2	4.3
Traumatic CNVM	1	2.2

Table 2: Location

Location	Numbers(n=46)	Percentage (%)
Sub foveal	27	58.69
Juxta foveal	14	30.4
Extrafoveal	2	4.3
Peripapillary	1	2.2
Unifocal	42	91.3
Multifocal	3	6.5

Table 3: On the Basis of FFA -Angiography

Pattern on angiography	Number of cases(n=46)	Percentage (%)
Classic cnvm	39	84.7
Occult cnvm	4	8.7
Undifferentiated	3	6.5

Table 4: On the basis of treatment

Treatment modality	Number of eyes benefitted (n=46)	Percentage (%)
ANTI VEGF 1 DOSE	6	13.04
ANTI VEGF 2 DOSES	10	21.7
ANTI VEGF 3 DOSES	21	45.6
ANTI VEGF 5 DOSES	2	4.3
PDT	2	4.3
HIGH DOSES OF STEROIDS	1	2.1
NON-RESPONDERS	4	8.6

Table 5: visual outcome

Visual outcome	Eyes (n=46)	Percentage (%)
Improvement	31	67
Stable vision	8	18
Deteriorated	7	15

Discussion

Our outpatient Ophthalmology department recruited 41 patients with 46 eyes for this hospital-based clinical trial. It was carried out from November 2017 to March 2019, with the purpose of determining the various types of non-AMD CNVM and their locations in relation to the patterns observed on Fundus Fluorescein Angiography (FFA).

In our study take a look at the affected person of age 20 – sixty-four with common age of 49.6 years were taken. In our look at the cases of CNVM > fifty-five yrs. with drusen different eye AMD related cnvm or dry AMD had been excluded and any CNVM acquired previous

remedy became also excluded to get better result regarding remedy. Instances with media opacities wherein FFA is inconclusive and instances clinically recognized as PCV, RAP had been also excluded.

In our study we observed each eye and the intercourse have been taken into consideration out of the end result which got here out is Male preponderance of M:F ratio is 1.3:1. This additionally offers the end result that the majority had unilateral presentation besides PFT (parafoveal telangiectasia) and myopic CNVM which confirmed the bilateral presentation.

In our study the number of cases taken are 46 and out of which the different sorts are and with their chances- 14 cases are of Myopic CNVM that is 30.4% following which Idiopathic CNVM instances are 11 this is 23.9% then PFT instances are 09 that is 19.5% following which Inflammatory instances are 04 this is 8.7%, then Choroidal osteoma with CNVM are 03 that is 6.5% and Angiod streak instances are 02 this is 4.3% and CSR with CNVM are also 02 that is 4.3% and the least are stressful CNVM cases are 01 this is 2.2% .

The primary purpose of our study was additionally to get records concerning the location of various types of non-AMD CNVM visible and the most common area is Sub foveal which is seen in 27 eyes out of 46 (58.69%), Juxta foveal which is visible in 14 eyes that is 30.4% then Extrafoveal area that's visible in 2 eyes that is 4.3% and the most unusual location is Peripapillary that is seen in single case of Angiod streak.

The observe also gives end result regarding the non-AMD CNVM cases that are primarily Unifocal – 42 out of 46 this is 91.3% and Multifocal are only 3 which might be seen in parafoveal telangiectasia cases specifically. In our examine of 46 eyes data about the types on Fundus Fluorescein Angiography visible in

cases of non -AMD CNVM is likewise correlated which comes out to those 39 eyes that is 84.7% had predominantly conventional pattern shown in FFA observed by 04 cases that is 8.7% had Occult cnvm and 03 cases that is 6.5% had been undifferentiated on angiography which offers critical part in dialogue as FFA may be taken into consideration as a vital diagnostic device.

All patients were primarily exclusively given anti-VEGF (either Lucentis or Avastin) ,29 patients primarily received Avastin, 17 received Lucentis and the patients those who had not responded to anti VEGF were given option of PDT or combination out of which 6 cases responded to single dose of anti-VEGF which predominantly include myopic CNVM cases but 10 more responded to second dose which include Myopic, Idiopathic and PFT related cnvm but then 21 cases responded to 3rd dose of anti VEGF.

From the above treatment option, 9 eyes didn't respond to 3 dosages of anti -VEGF hence were given option of PDT with anti-VEGF and also 2 eyes responded after 5 dosages of anti VEGF and 2 eyes respond to PDT which included Osteoma and Idiopathic CNVM. Also, one case responded to high dose steroids with anti-Koch's in inflammatory CNVM

After all treatment modalities it was noticed that out of 46, four patients remain non responded to treatment. One of the vital outcomes which turns out in our review is the people who are Non-responder out of four patients, one had angioid streak, two had CSR with cnvm, and one had parafoveal telangiectasia and the normal element among three non-responders is presence of enormous serous PED with mottled RPE adjustment.

In our study, the final result is based on the visual outcome after the various treatment modalities were

given. Nine cases had three line (Snellen) visual improvement until the last follow-up, seven cases had two-line improvement, and fifteen cases only had one line improvement. Eight cases had stable vision, but it was better symptomatically, and seven cases had vision loss. Therefore, the actual outcome was 31 cases with improved vision, 8 cases with stable vision, or 18%, and 7 cases with deteriorated vision, or 15%.

As a result, cases of non-AMD CNVM were thoroughly studied in terms of type, location, demographics, and findings from FFA and OCT as well as the role of anti-VEGF and visual outcome. As a result, the majority of cases benefited from the third dose of Avastin, with only four cases not responding.

Conclusion

In our region, PFT-related telangiectasia is common, predominantly affecting women, and it presents classically bilaterally and responds well to anti-VEGF treatment. After one to three doses of anti-VEGF, all cases of myopic CNVM responded. On OCT, 85% had mostly type-2 CNVM, and 65% had type-1 CNVM. Non-AMD cnvm cases respond well to anti-VEGF treatment alone, with 67% experiencing visual improvement. Inflammatory CNVM require higher doses of steroids and additional investigations. Non responders have demonstrated a common factor of large PED and RPE stippling; all of them have occult CNVM on FFA; cases like these necessitate ICG, which could be RAP or PCV.

Ethical approval: The Institutional and/or National Ethics Committee's ethical standards were met in all human participant procedures.

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