Clinical Management of Peripapillary Choroidal Neovascular Membrane

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INTRODUCTION

Peripapillary choroidal neovascular membranes (PCNM) are a collection of abnormal choroidal blood vessels within one disc diameter of the optic nerve. Up to 39% of PCNM are idiopathic, however, they can be associated with degenerative or inflammatory optic disc pathologies and anomalies. This case examines a patient with a right peripapillary choroidal neovascular membrane and a gradual decline in vision. Diagnosis, treatment, and management are also discussed.

BASELINE EXAM: 03/2022

PATIENT HISTORY
74 yo White male presents for comprehensive exam.
CC: Increased constant general blur OU with current Rx.
HPI: Blur since last eye exam 12/2020, denies new floaters/photopsia, denies ocular discomfort/pain/redness.
PHis: Cataracts OU, dry eye syndrome OU
PMMs: Coronary artery disease, hyperlipidemia, hypertension, dementia, Parkinson’s
FHx: Unremarkable

CLINICAL FINDINGS

BCVA: OD: 20/40 OS: 20/30
Pupil testing: PERRL, (-)RAPD EOM: Full OD and OS, CVF: FTFC OD, OS
Anterior Segment: Grade 2+ NS and Grade 1+ CS OU, all other findings unremarkable; GAT: 16/16 mmHg

Dilated Fundus Exam

Vitreous:
OD: Syneresis

Optic Disc:
OD: 0.25V x 0.25H; Flat, distinct margins, (+) subretinal heme along sup disc margin,
(+ splinter disc heme with underlying scaffold at 12.00
OS: 0.25V x 0.25H; Flat, distinct margins, (-) heme

Macula:
OD: Flat, even pigment
OS: Normal

Post-Pole:
OD and OS: No breaks/bears 360

Additional Testing: OCT optic disc scan, OCT RNFL, OCT Macula

Differential Diagnosis: Central serous chorioretinopathy, wet AMD, ocular histoplasmosis, angiod streaks

Assessment and Plan: Peripapillary choroidal neovascular membrane OD. Referred to retina for same day evaluation and aflibercept injections.

FOLLOW UP: 04/2022

CC: Stable vision with no notable changes since last visit;
denies ocular pain or discomfort.
VAc:
• OD: 20/50, PH: 20/40
• OS: 20/50, PH: 20/40

Slit Lamp Exam:
• OD: Grade 2+ NS, grade 1+ CS
• All other findings unremarkable

Dilated Fundus Exam: All findings stable from baseline

Optic Disc:
OD: 0.25V x 0.25H; Flat, distinct margins, (+) subretinal heme along sup disc margin
OS: 0.25V x 0.25H; Flat, distinct margins; (-) heme

OCT RNFL: Subretinal fluid with break at Bruch’s membrane superior to optic disc OD; stable

Assessment and Plan: Defer additional intravitreal injection, follow-up in 6-8 weeks.

Figure 1. Fundus photography showing superior PCNM

Figure 2. Red-free image of PKCM

Figure 3. OCT RNFL showing superior elevation of ONH margin

Figure 4. OCT optic disc scan

DISCUSSION

Symptoms
PCNM are asymptomatic until they encroach the macula, resulting in subfoveal edema and subsequent fibrotic scarring

Additional Testing
• OCT Macula: Detect subretinal or intraretinal fluid
• OCT RNFL: Visualize optic nerve changes
• Fluorescein angiography: Reveal areas of leakage
• Fundus photography: Non-invasive analysis of retina

Prognosis Based Upon
• Age
• Disease pathology
• Papillomacular bundle proximity

Treatment Options
• Laser photocoagulation
• Photodynamic therapy
• Anti-VEGF
  ▪ Few clinical trials performed analyzing the management of PCNM, specifically, with anti-VEGF
  ▪ Figueroa et al: Short multi-centered interventional case series; 6 eyes from 5 patients in Madrid
    ▪ In 5 eyes, bevacizumab led to complete resolution with 4-line improvement in visual acuity
    ▪ No recurrences at 13 month follow up
  ▪ Hoeh et al: Intravitreal bevacizumab in treatment of 4 cases of PCNM
    ▪ Follow up: 34±20 weeks, Injections: 3.5±3.1
    ▪ Resolution of PCNM in all patients with no adverse side effects
    ▪ Variable improvement in BCVA

Conclusion
The asymptomatic nature of this disease would delay a patient in seeking urgent eye care. Performing routine dilated fundus exams allowed this patient to be treated promptly, reducing the chance of future vision loss from PCNM.

References


Additional Reading

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