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Ocular Complications Following Vestibular Schwannoma Excision

Abstract: A vestibular schwannoma and its excision can cause multiple ocular complications. Close observation and long-term treatment may be required to preserve both vision and ocular health.

I. Case History
- 26 year-old Hispanic male
- Chief complaint of constant film over right eye causing blurred vision since schwannoma excision 2015. He also reports that the room appears to be spinning but resolves with eye closure.
- Ocular history includes right corneal abrasion 04/2016, neurotrophic keratopathy right eye 04/2016 with element of secondary exposure keratopathy.
- Medical history includes a right vestibular schwannoma, right retro sigmoid craniotomy with tumor resection 12/12/2015, posterior fossa hemorrhage with persistent clot where the craniotomy had to be re-opened. The eighth cranial nerve was cut. Palsy of the right fifth and seventh cranial nerves.
- Ocular medications included preservative free artificial tears in the right eye 4-6 times per day. The patient was not taking any systemic medications.
- This is an inpatient at the polytrauma rehabilitation unit, admitted 05/17/2016

II. Pertinent findings
- 17 visits from 05/19/2016-08/25/2016, pertinent exams listed.
- Visit 1:
  - VA cc: OD: 20/150 PH:20/60+2
    OS: 20/40+2 PH:20/30-2
    OU: 20/30-2
  - Fixation: nystagmus, erratic in nature with a torsional component
  - EOMS: nystagmus worsens in right end gaze. Null point appears to be in primary gaze.
  - Cover Test: cc
    Distance: Inaccurate fixation secondary to nystagmus.
    Near: Inaccurate fixation secondary to nystagmus.
  - Habitual specs: OD: -1.50+1.00x065
    OS: -3.00+2.75x090
  - SLE: OD: right side facial droop, lagophthalmos, 4+ conjunctival injection, 4+ SPK, stromal horizontal band scarring below pupil, central corneal haze
- Visit 7: 06/15/2016
  - VA cc: OD: 20/40+ PH 20/30-2
    OS: 20/30-1 PH 20/25-2
    OU: 20/30-2
  - SLE: OD: right side facial droop, lagophthalmos, 4+ conjunctival injection, 3+ SPK, stromal horizontal band scarring below pupil, central corneal haze
- Visit 9: 07/22/2016
  - VA cc: OD: 20/400 PH 20/150
    OS: 20/40-2 PH 20/25+2
    OU: 20/30
  - SLE: OD: right side facial droop, lagophthalmos, 4+ conjunctival injection, 4+ SPK, stromal horizontal band scarring below pupil, central corneal haze, infiltrate temporal with overlying epithelial defect.
- Visit 17: 08/25/2016
  - VA cc: OD: 20/100
    OS: 20/30
  - SLE: OD: right side facial droop, lagophthalmos, 7.5mmx2.0mm H/V stromal scar, haze inferior to pupil, diffuse 4+ intrapalpebral staining. (-)infiltrate (-)epithelial defect
III. Differential Diagnosis

- Primary/leading:
  - Corneal Ulcer
  - Neurotrophic Keratopathy
  - Corneal Abrasion
  - Exposure keratopathy
  - Lagophthalmos
  - Nystagmus

- Others:
  - Bacterial Keratitis
  - Herpes Simplex
  - Herpes Zoster
  - Recurrent Corneal Erosion
  - Dry eye syndrome
  - Sjogren Syndrome

IV. Diagnosis and Discussion

- Corneal ulcer
  - An inflammatory condition of the cornea involving disruption the epithelial layer with stromal involvement.

- Exposure keratopathy
  - Decreased lubrication of the ocular surface due to inadequate eyelid closure or decreased blink.

- Neurotrophic keratopathy
  - A degenerative disease of the corneal epithelium resulting from impaired corneal innervation. Secondary to cranial nerve five palsy.

- Lagophthalmos
  - The inability to close the eyelids completely. Secondary to cranial nerve seven palsy.

- Nystagmus
  - Secondary to the cutting of cranial nerve eight.

V. Treatment, management

- Corneal Ulcer
  - Topical antibiotics, bandage contact lens, introduce topical steroid once resolving

- Exposure keratopathy
  - Topical artificial tears and ointments, topical cyclosporine, moisture chamber googles, Scleral lens

- Lagophthalmos
  - Tarsorrhaphy, gold weight implantation

- Nystagmus
  - Botox injections, monitor

VI. Conclusion

- Vestibular schwannomas and the surgery to remove them can cause lifelong ocular issues needing lifelong treatment.
- Constant follow-ups may be needed to preserve both vision and ocular health.
- Consulting with physicians and making the appropriate referrals is very important in the preservation of vision and ocular health.

Bibliography


