Spontaneous Hyphema

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PGY 4
Introduction

- The dreaded 3:30 am page by the local ER
Introduction

• 24 year old male patient presenting to the ER with hyphema
• “Patient’s eye pressure seems a little high at 55”
• Unknown cause for the hyphema

• Asked ED physician to obtain baseline blood work and CT scan of orbits
# Differential Diagnosis for Spontaneous Hyphema

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Patient Subjective Examination

- Awoke from sleep with complete loss of vision OS
- Severe eye pain OS
- Nausea and vomiting

- Patient states that he thinks over the past week had noticed a blurring of his vision OS

- Patient has not noticed any changes OD
Patient Subjective Examination

- PHx: denies DM, trauma, any known ocular diseases
- Last DFE 1.5 years ago

- ROS:
  - GU: history of hydrocele diagnosed 2 months ago, without follow up
  - All other ROS negative
Physical Exam

• Visual Acuity: OD 20/20; OS NLP
• SLE OD: WNL
• OS:
  • Conjunctiva: diffuse hyperemia particularly nasally
  • K: diffuse corneal edema with DF
  • AC: total “8 ball” hyphema

• unable to view iris, lens or fundus OS

• IOP: OD 12, OS 50mmHg
**Treatment**

- Topical antihypertensive drops and IV Diamox
  - Minimal IOP reduction to 47
- Sent to Ocular Oncologist in Cincinnati that morning
- Ultrasound biomicroscopy confirmed the presence of an irregularly shaped nodular ciliary body soft tissue tumor
  - This tumor was located medially OS and showed an adjacent limited vitreous hemorrhage
Differential Diagnosis

- Adult medulloepithelioma of the ciliary body
- Metastasis from an occult primary extra-ophthalmic primary cancer
- Necrotic ciliary body melanoma or melanocytomas
- Loculated non-neoplastic hematoma
Treatment

• Because the affected eye was blind and painful, with uncontrolled, elevated intraocular pressure enucleation OS was performed
Pathology

- Gross pathological evaluation of the globe showed a ciliary body mass
- Measured approximately 10mm by 7mm in thickness
- Florid iris neovascularization
- Initial pathologic impression was poorly differentiated ciliary body medulloepithelioma with secondary neovascularization of the iris
One weeks later

- Patient was readmitted to hospital following an episode of syncope associated with nausea and anorexia
- 3 day history of dark tarry stools
- CBC showed severe anemia
- CT scan of the abdomen and pelvis showed the patient’s right testicle to be markedly enlarged, measuring 9.6 cm x 9.1 cm, and with radiologic features consistent with testicular carcinoma
- Other radiologic studies revealed probable metastatic lesions in the lung, liver, spleen and tail of the pancreas
Immunohistochemical studies arrived back consistent with embryonal carcinoma of the testis
Metastatic Tumors to Eye

- Most common metastatic tumors to the uvea include
  - Breast (the most common source for metastasis to the eye)
  - Lung
  - Prostate

- The most common site for metastases from non-ophthalmic cancers is the choroid (88%)
  - Ciliary body is the least frequently involved uveal site (2%)
Metastatic Testicular Cancer

- Very rare cause for metastatic disease to the eye and orbit
  - In largest published pathologic series of cases of non-ophthalmic primary cancer metastatic to the eye and orbit (n = 227 cases), only 6 cases of testicular cancer metastatic to the eye

- Several case reports have been identified
- All these show metastasis to the choroid or retina
- None of the reports we identified described a metastasis to the ciliary body or presentation with a spontaneous hyphema
Differential Diagnosis for Spontaneous Hyphema

- **Pediatric Population**
  - Juvenile Xanthogranuloma
  - Retinoblastoma
  - Leukemia
  - Clotting abnormalities

- **Adult Population**
  - Rubeosis iridis
    - Retinal venous occlusion, DM, etc.
  - Clotting abnormalities
  - Herpetic disease
  - Intraocular lens problems (including UGH syndrome)
References

• Valent DJ, Augsburger JJ, Correa ZM. Embryonal Carcinoma of Testis Metastatic to Ciliary Body Presenting as Spontaneous Hyphema and Painful Secondary Glaucoma. Retinal Case and Brief Reports. In press.
