Beer bottle Maculopathy: A case of traumatic macular hemorrhage following blunt trauma

Abstract: Blunt trauma can often lead to retinal complications with significant vision loss. This report discusses a patient who developed a unilateral submacular hemorrhage following a blow to left eye with a beer bottle.

I. Case History
   a. Patient demographics: 35 year old Hispanic male
   b. Chief complaint: Large floater OS, decrease vision OS, recent lid swelling with bruising OS, left upper lid laceration
   c. Ocular and medical history: Unremarkable
   d. Medications: Augmentin 825mg BID-self medicated.
   e. No medical or ocular allergies were noted and a social history revealed frequent use of alcohol.

II. Pertinent findings
   a. Clinical
      i. Unaided VA 20/60 with pinhole no improvement OS
      ii. Positive Amsler grid showing scotoma superior to fixation OS
      iii. (-) APD OS
      iv. IOP 16mmHg OS
      v. Subconjunctival hemorrhage temporally OS
      vi. 3DD well demarcated area of a submacular hemorrhage with central choroidal folds OS
   b. Physical
      i. 2.5mm vertical laceration left upper eye eyelid
   c. Imaging
      i. OCT macular scan showed subretinal fluid beneath fovea extending temporally OS. Macular central thickness measured 607um OS.
      ii. Retina fundus photography revealed the 3DD submacular hemorrhage with associated choroidal fold

III. Differential diagnosis
   a. Retina complications causing decrease vision following blunt trauma
      i. Retinal detachment
      ii. Choroidal rupture
      iii. Traumatic optic neuropathy
      iv. Commotio Retinae
      v. Vitreous hemorrhage
   b. Other etiologies of submacular hemorrhages
i. Age Related Macular Degeneration
ii. Retinal Arteriolar Macroaneurysm
iii. Angioid Streaks
iv. Myopic degeneration
v. Polypoidal choroidal vasculopathy
vi. Complications from vitrectomy
vii. Complications from Scleral buckling

IV. Diagnosis and discussion
a. Diagnosis: Traumatic submacular hemorrhage secondary to blunt trauma OS
b. Discussion:
   i. Pathophysiology
      1. Often result from coup injuries causing a break in
         a. Choroid
         b. Bruch’s membrane
         c. RPE
   ii. Symptoms
      1. metamorphopsia, large floaters, central scotomas, decreased vision
   iii. Signs
      1. Decrease visual acuity, subretinal hemorrhage localized at the macula and adjacent retina
iv. Prognosis
   1. Permanent vision loss may result from the following if left untreated
      a. Mechanical damage to photoreceptors from fibrin infiltration
      b. Toxic effect of iron and hemosiderin on photoreceptor function
      c. Poor diffusion of nutrients from choroid to photoreceptors
      d. Fibrotic scar formation
v. Diagnosis
   1. Fundus Examination
   2. OCT

V. Treatment, management
a. Referred to retinal specialist for treatment options: Observation vs. blood evacuation with tissue plasminogen activator
b. Treatment options
   i. No treatment-Observation only
   ii. Pars Plana vitrectomy with subretinal or intravitreal injection of tissue plasminogen activator
   iii. Pneumatic displacement with intravitreal injection of gas with or without tissue plasminogen activator
iv. Pneumatic displacement using intraocular gas

VI. Conclusion
   a. Clinical pearls
      i. Timely referral to retinal specialist for evaluation and treatment essential for best visual prognosis
      ii. OCT is useful and non-invasive tool to when evaluating macular trauma and determining appropriate treatment
References


6. Donatti S. Treatment of sub macular hemorrhages with t-PA: a review. Retina Today, 2006; 3(1)


