I. Case History
   - 14-year-old Caucasian, female
   - Chief Complaint: Left eye irritation, photophobia, foreign body sensation, and significant hyperemia onset 7/20/16
   - Ocular history: No spectacle prescription, baseline screening for ocular GVHD on 9/10/15--no ocular signs/symptoms
   - Medical history: Acute lymphoblastic leukemia, status post bone marrow transplant 6/16/15
     - Total body irradiation performed before transplant
     - GVHD prophylaxis: abatacept, cyclosporine, and methotrexate (not currently taking)
     - Suffers from skin GVHD onset on 8/7/15
   - Current Medications
     - Systemic medication: Jakafi (ruxolitinib-kinase inhibitor) 5mg, acyclovir 800mg, vitamin-D 50,000 IU, Prevacid 15mg, Bactrim DS 160mg, Kenalog cream 0.1%
     - Ocular medication: Genteal Preservative Free Gel 0.3% 6-8 times per day

II. Pertinent findings
   - Anterior Segment OD and OS: 1+ injection, mucous filaments, 2+ Punctate epithelial erosions inferior>superior, Tear break-up time <3 seconds

III. Differential diagnosis
   - Dry Eye Syndrome, Sjogren’s syndrome, Iritis, Limbal Stem Cell Deficiency, Steven-Johnson Syndrome, ocular cicatrical pemphigoid, Mucus fishing syndrome

IV. Diagnosis and discussion
   - Ocular GVHD can mimic dry eye syndrome with similar signs and symptoms of the condition. As many as 50% of transplant recipients suffer from chronic ocular GVHD. Refractory cases are difficult to manage and require more extensive intervention including autologous serum tears. Understanding the status of the patient’s systemic (chronic or acute) GVHD can influence the diagnosis and treatment strategy.
   - Clinical findings include conjunctival inflammation, conjunctival hyperemia, chemosis, pseudomembranous and cicatrical conjunctivitis. Complicated cases include severe corneal epitheliopathy, filaments, painful erosions, corneal ulceration, perforation, and scarring.
   - Risk factors include chronic systemic GVHD, especially skin and/or mouth and receiving transplants from unrelated donors.
   - Life expectancy post hematopoietic stem cell transplant is increasing, especially in children and optometrists must be aware of signs and symptoms of ocular GVHD. Optometrists must be aware that the onset can occur at any time after the transplant. A complete medical history is key for prompt diagnosis and treatment intervention for ocular surface health, vision and quality of life.

V. Treatment and management
   - Case Treatment: Genteal Gel PF 6-8 times per day in both eyes, return to clinic 1 month
   - Standard of care treatments include (from least extensive to most extensive):
     - Environmental management
- Elimination of offending systemic medications
- Preserved/unpreserved tear substitutes
- Topical/systemic Steroids
- Cyclosporine A
- Secretagogues
- Nutritional supplements
- Tetracyclines
- Autologous serum tears
- Punctal plugs
- Topical vitamin A
- Scleral contact lens
- Acetylcysteine
- Moisture goggles
- Surgery

VI. Conclusion

- Optometrists must be aware of dry eye complaints and ocular surface integrity in post bone marrow transplant patients, especially in children. Complete medical history is key for the diagnosis of GVHD.

Bibliography


