Rural Medicine: Lateral Canthotomy

Vanessa Cardy, MD and Julie Vieth, MD

Take Home Points

- **Lateral canthotomy is a fairly easy procedure and you have the necessary equipment in your ED.**
- **Review the video before you do it.**
- **Consider reversing coagulopathy.**

- **It was the weekend in rural upstate New York.** The PA walked out of a room and approached Vieth. "I think this lady needs a lateral canthotomy."
- **A 40-year-old female had tripped and fallen at home, hitting her left eye on a table.** There was no loss of consciousness. She was on anticoagulation due to a history of a mechanical valve. She had a history of surgery on both of her eyes and the affected eye was her good one.
- **She was neurologically intact with stable vital signs.** She was holding her hand over her injured eye. When she removed her hand, the eye was completely swollen shut with significant periorbital ecchymosis. The lids were nearly everted due to the swelling. There appeared to be proptosis. Vieth examined the globe. There was significant conjunctival hemorrhage. The pupil was round but not reactive. The patient was able to see Vieth and count fingers. The exam was difficult, the patient was in pain and pushing Vieth away.
- **Do you image now or later?** Cardy does not have the option to image in her setting. The patient would require procedural sedation if she needed a lateral canthotomy as she barely tolerated the exam. This would add time so Vieth decided to send her for head CT to rule out hemorrhage. She didn't want to sedate the patient with a potentially undiagnosed intracranial process.
- **By the time the patient returned to the ED, Vieth had reviewed the EMRAP video on lateral canthotomy and Quickcards.** The last time she had done a lateral canthotomy was nearly 9 years before in a simulation lab with a pig head.
- **The CT was negative for intracranial injury but it was obvious she had a large retrobulbar hematoma**.
- **What resources does Vieth have at her hospital?** She has a CT scanner. She has an awesome ophthalmologist Monday through Friday but this was the weekend. She has anesthesia available. She called anesthesia to help with the sedation because she needed to focus on the procedure.
- **They used ketamine which the patient tolerated well.** When the patient was sedated, they obtained an intraocular pressure which was 65 mmHg. She injected 1% lidocaine with epinephrine along the lateral canthus and used the hemostats to clamp along the lateral canthus to devascularize the area for about a minute. The patient was on warfarin and Vieth wasn't sure how much the patient was going to bleed.
- **Vieth felt for the ligament with the scissors.** She went for the inferior crus first and the pressure decreased to 35 mmHg. However, the patient had an estimated 90 minute transport time to specialist care and Vieth was worried the pressure might increase during transport. Vieth cut the superior crus as well and the intraocular pressure dropped to 20 mmHg. The bleeding was minimal.
- **Vieth had given the patient 4-factor PCC.** Should she have reversed the warfarin? She looked it up later and the consensus seemed to be that you should probably reverse these. After the patient left the facility, the INR returned at 1.7.
- **The patient did have an emergence reaction after the ketamine but the flight team was able to give sedation with ketamine and benzodiazepines.** It kept the patient calm.
- **What dressing did she use?** Vieth placed moist gauze with saline around the area and gently protected the eye. She didn't put anything on top of the eye or lid. She used a Styrofoam cup to create an elevated dressing.
- https://www.emrap.org/episode/lateral/lateral

EMA September Ultra Summary

Mel Herbert, MD

Take Home Points

- **Loop incision drainage is non-inferior compared to incision and drainage for small abscesses.**
- **Patients with SARS-CoV-2 infections are at high risk for mortality and pulmonary complications with surgery and non-essential surgeries should be delayed or non-operative management attempted.**
- **High-flow oxygen reduced dyspnea in palliative care patients in the ED and was better tolerated than BiPAP.**
- **Phenobarbital was superior to levetiracetam in the treatment of neonatal seizures.**

- **Abstract 1:** Schechter-Perkins, E et al. **Loop drainage is non-inferior to traditional incision and drainage of cutaneous abscesses in the emergency department.** Acad Emerg Med. 2020 May 14.