From Double Chin to Double Trouble

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Case Presentation

40-year-old male with PMH depression and obesity presents with acute chin and neck swelling over a 10-minute period that awoke him from sleep. Patient has mild shortness of breath and difficulty opening mouth. Patient had undergone liposuction of the chin and neck region two days prior. Patient had two Jackson-Pratt drains in place with minimal drainage. He denies changes in voice, drooling, problems swallowing, wheezing, fever, chills, nausea, or vomiting.

Physical Exam:

Vitals: BP 154/89, HR 85, T 97.8F oral, RR 16, SPO2 100% on room air

General: Alert and oriented male who appears uncomfortable and anxious

HEENT: Large swelling of submental and neck area with minimal passive/active movement of neck. Area is tense and tender to palpation. Two JP drains bilaterally draining minimal serosanguinous fluid. Minimal mouth opening. 4.0 cm submental surgical incision is clean, dry, and intact. No stridor. No crepitus.

CV: normal S1S2 without murmur, rub, or gallop; 2+ radial pulses bilaterally.

Respiratory: Lungs clear to auscultation bilaterally without wheezes, rales, or rhonchi.

GI: Abdomen is soft and nontender.

Skin: Warm and without rashes.

Chief Complaint: “Sudden neck swelling”

Questions

1. With a history of liposuction, can this patient be evaluated as a penetrating neck injury?

2. When should you consider emergent intubation?

Answers

1. Liposuction of the neck and chin with subsequent complication can be considered penetrating neck trauma, specifically in this case of a zone II neck injury. To review, zone I of the neck is the area between the clavicle and cricoid. Zone II is the area between the cricoid and angle of mandible. Zone III is the area between the angle of the mandible and the base of the head. Hard signs of neck injury include airway compromise, expanding or pulsatile hematoma, active hemorrhage, shock, compromised radial pulse, hematemesis, neurological deficit, paralysis, cerebral ischemia. Soft signs of neck injury include subcutaneous emphysema, dysphagia, dyspnea, non-pulsatile, non-expanding hematoma, venous hemorrhage, chest tube air leak, minor hematemesis, and paresthesias. If any hard signs are identified, the airway must be secured and subsequently the neck must be explored.

2. Consider intubation if the patient has any hard signs of neck injury. Start with video assisted laryngoscopy for better view. One attempt at intubation should be done by the most experienced provider and if failure, surgical airway should be performed.

Clinical Course and Discussion

This patient presented to the emergency department with a large submental and neck hematoma. On arrival, the patient was placed in the resuscitation bay and evaluated. Although the swelling of the neck and submental regions were large, patient was still able to communicate and did not show signs of acute respiratory distress. With a history of recent liposuction of the neck, it was decided to treat this as a penetrating neck injury with signs of expanding hematoma, specifically of zone II of the neck. Emergency airway adjuncts were brought to bedside, including intubation tray, video-assisted laryngoscope, bougie, bag valve mask, and surgical cricothyrotomy kit. The on-call anesthesiologist, vascular surgeon, and plastic surgeon were all consulted emergently for evaluation of hematoma and impending airway compromise. On neck exploration, it was noted that the platysma was plicated and there were small areas of punctate bleeding. However, no discrete arterial evidence of bleeding was identified. Diffuse oozing from all surgical surfaces were successfully coagulated with electrocautery and hemostatic powder. After surgery, patient was taken to ICU for additional management and eventually discharged home.

Injuries involving the neck present a therapeutic and diagnostic challenge to the emergency physician. The majority of the vital structures of the neck are located within closely confined fascial compartments, making them vulnerable to distortion and compression when bleeding occurs (2). Thus, penetrating injuries to the neck are best approached methodically with regard to the site of external penetration (anterior/posterior neck and what zone is involved), the depth of the wound, and the potential of injury within the deeper compartments. Attention to airway patency is the focal point of the initial evaluation of any patient with potential penetrating neck trauma and airway management should managed as a difficult airway.

Take Home Points

- Although this may not be a traditional presentation of penetrating trauma, liposuction is a blind procedure that is invasive and can violate deeper structures, causing neurovascular complications. It is important to know the hard and soft signs of penetrating neck trauma.
- Be prepared for an airway disaster, especially in cases where there is impending airway compromise. Have different airway back-ups, including surgical cricothyrotomy kit.
- It is important to have your consultants and specialists involved early.