Airway management in a penetrating neck injury in zone I. A case report

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Background

Penetrating neck injury (PNI) is a life-threatening emergency due to the potential involvement of vital structures of the neck and thorax. In this scenario, airway management might be a challenge if the respiratory tract is involved. We present case report of an open tracheal injury secondary to a stab wound in zone I.

Case Report

A 43 year old male with history of depression was brought to the emergency department. He had tried to commit suicide by stabbing himself in the neck with a sharp knife. His vital signs on arrival were BP 140/72 mmHg, HR 140 bpm, SpO2 92% (FiO2 100%). At physical examination he presented obtundation, tachypnea, signs of respiratory distress and suspicion of airway injury with air coming out from the PNI. No major bleeding or any other lesion was observed.

Patient critical condition did not allow diagnostic imaging and was transferred to the operating room. Fiberoptic bronchoscopy was attempted, but it was not successful. General anesthesia was instituted after the surgeon was scrubbed and ready for surgery. Videolaryngoscopy was then attempted, visualizing the glottis but the insertion of the endotracheal tube was not possible, probably due to the knife obstructing the tracheal lumen. The knife was withdrawn, acknowledging the risks of this maneuver, and the surgeon proceeded to secure the airway by inserting an endotracheal tube through the wound. Chest tube drainages were placed bilaterally. Findings consisted on a section of the trachea in the 2nd tracheal ring. No other organ or major vessel were affected. Retrograde intubation was then performed and the surgeon proceeded to repair the injury. Patient remained hemodynamically and respiratory stable, was extubated and discharged to a psychiatric facility after 6 days.

Discussion

Neck injuries can be a life-threatening event due to bleeding, airway obstruction from tracheal injury or hematoma. Successful management depends on early detection of vital injuries, appropriate diagnostic assessment and proper surgical treatment if needed. In those PNI cases in which the airway is involved, it is of vital importance that surgeons and anesthesiologist work

Learning points

- Although uncommon, PNI are life-threatening due to the potential injury to vital structures of the neck and thorax.
- PNI cases with airway involvement are a challenge to anesthesiologists and surgeons and

References

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