



Short Communication

A rare case of severe postoperative retropharyngeal oedema due to lymphatic disruption following anterior cervical spine surgery

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ABSTRACT

This case report discusses a 61-year-old male undergoing C5 corpectomy and fixation for a C5-6 prolapsed intervertebral disc under general anaesthesia. Postoperatively, he experienced respiratory distress characterized by tachycardia, tachypnoea, and decreased oxygen saturation, accompanied by changes in voice quality. Fiberoptic laryngoscopy revealed oedema in the posterior pharyngeal wall and upper airway, confirmed by radiograph and MRI. Retropharyngeal oedema above the surgical site was managed with intravenous hydrocortisone and elective ventilation, resulting in resolution over 72 hours. The case highlights the importance of recognizing and promptly managing retropharyngeal oedema to prevent airway compromise post-cervical spine surgery. Early intervention is crucial to avoid emergency airway procedures and minimize patient morbidity.

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1. Introduction

Cervical spine surgeries with an anterior approach have implications on anaesthetic management due to the proximity of the operating field to the airway. Airway complications are encountered during procedure and also in postoperative period. In this case we report postoperative retropharyngeal oedema predominantly above the level of surgical manipulation.

2. Case Report

A 61-year-old male with a C5-6 prolapsed intervertebral disc was posted for C5 corpectomy and fixation under general anaesthesia. The intubation was uneventful. During surgery, the strap muscles were found to be difficult to retract although there was no increase in airway

pressure, inadequate depth of anaesthesia or suboptimal muscle relaxation at this time. Postoperatively, following extubation the speech and respiration were normal. Six hours later, he was allowed orally and swallowed food comfortably. Twenty-four hours after the surgery, he became uncomfortable lying supine felt better sitting upright. There was also change in the quality of his voice along with tachycardia (>110 bpm), tachypnoea (>30 /min) and fall in SPO₂ to 92%. Examination of the surgical site revealed no swelling, redness, or oozing from sutures. Adrenaline nebulization was administered, which provides only a transient relief. To ascertain the cause of respiratory distress a fiberoptic flexible laryngoscopy was done. A bulge in the posterior pharyngeal wall with generalized upper airway oedema was found. A lateral neck radiograph confirmed the narrowing of air shadow at the glottis level with an increase in retropharyngeal space (Figure 1). A decision was taken to secure the airway with a smaller 7.5 mm ETT. MRI

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done thereafter confirmed oedema in the retropharyngeal space extending just above surgical incision at C5 to the base of the skull (Figure 1). The patient was started on intravenous Hydrocortisone 100 mg QID and electively ventilated. Daily lateral neck radiographs were performed. After 72 hours radiographs revealed a satisfactory reduction in retropharyngeal oedema. Subsequently, the patient was extubated with a normal voice, no difficulty in breathing or swallowing.

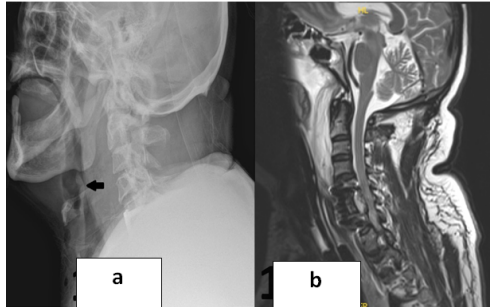


Figure 1: a): Lateral neck radiograph showing increased retropharyngeal shadow, airway shadow is compressed between epiglottis and posterior pharyngeal wall (Black arrow); b): MRI image sagittal view T2 weighted cervical spine showing prevertebral soft tissue thickness and hyperintensity extending from C5 vertebra to clivus.

3. Discussion

Postoperative hematoma remains the most common cause of acute airway obstruction following anterior cervical spine surgery.¹ However, in this case diffuse oedema in the retropharyngeal space caused the airway obstruction. The oedema was seen only above the level of surgical manipulation i.e C5 extending up to the base of the skull. The retropharyngeal space harbours a rich lymphatic system and the disruption of this flow may lead to oedema at tissue level.² The areas of nasal fossae and nasopharynx drain through the retropharyngeal group of lymph nodes.^{3,4} Tissue oedema due to injury following surgical dissection would have probably caused localized oedema like in this case.^{5–7} The gradual decrease in oedema over 3 days can be attributed to drainage through the alternate lymphatic system in the neck.

4. Conclusion

In such cases of severe retropharyngeal oedema identifying the early signs of airway obstruction and securing airway is important. The course of this type of oedema is self-limiting in nature. Any delay would necessitate emergency cricothyroidotomy which increases the morbidity of patient.

5. Source of Funding

None.

6. Conflict of Interest

None.

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