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Anaesthesia management in a case of large lipoma on back of the neck with difficult positioning

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Abstract

During induction of anaesthesia, a huge mass on the back of neck which does not allow the patient to lie supine is a risk factor for difficult airway. Proper positioning is pertinent for induction of anaesthesia, securing the airway and surgical accessibility. A mass on upper back which limits positioning of the patient supine for induction of anaesthesia is a challenge for anesthesiologist for the management of airway. Complications due to airway manipulation are one of the commonest causes for anaesthesia related morbidities and mortalities.

We report the anaesthetic management of a 70 year old male patient, having mouth opening of three finger with no teeth in both jaw scheduled for resection of a giant mass (Huge lipoma), over the upper back that Restricted flexion and extension movement of the neck.

Case Report: A 70-year-old male patient came to our medical college hospital about 6 months back, with a mobile, smooth-surfaced painless giant mass over back of the neck of 10 years duration. Local examination revealed an 12 x 10 cms sized ovoid, soft, smooth surfaced, mobile, non-tender, non-pulsatile, mass with no bruit. A fine needle aspiration cytology showed fibrofatty tissue histopathologically. Elective surgery was planned.

After confirming NBM status and taking consent of the patient. Patient taken inside OT. Monitors attached. Vitals noted. Iv fluid started. After that RAMP position given to the patient. Patient induced under general anaesthesia. Intra operatively maintained on oxygen + N₂O + isoflurane + intermittent vecuronium. Excision of lipoma done. Patient extubate well and shifted to recovery for observation.

Conclusion: Proper positioning of the patient is the most important step for induction of anaesthesia as well as securing the airway. This is best done in supine position. In a patient with a huge mass over the back which interferes with a suitable supine position, RAMP position plays most important role during intubation.

Keywords: Difficult positioning, lipoma over back of neck, general anaesthesia

Introduction

The American Society of Anesthesiologists (ASA) task force defined a difficult airway as “a clinical situation in which a conventionally trained anaesthesiologist experiences difficulty with mask ventilation, difficulty with tracheal intubation, or both” [1]. The task force further noted that the “difficult airway” represented a complex interaction between patient factors, the clinical setting, and the skills and preferences of the practitioner. Lipomas are slow-growing benign soft-tissue tumours which are typically asymptomatic. Large lipomas in the cervical region of neck are rare. A lipoma is considered to be of excessive size when it exceeds 10 cm in length in any dimension or weighs over 1000 g. During induction of anaesthesia, a huge mass on the back of neck which does not allow the patient to lie supine is a risk factor for difficult airway [2, 3, 4].

Proper positioning is pertinent for induction of anaesthesia, securing the airway and surgical accessibility. In patients with anticipated difficult airway, fiberoptic intubation under spontaneous ventilation has been considered an effective and safe choice, taking into account that laryngoscopic intubation may worsen any difficult airway scenario [5]. We report a case of large lipoma over the back of neck that limits neck movements in a patient having adequate mouth opening but patient is edentulous which leads to difficulty during intubation. A mass on upper back which limits positioning of the patient supine for induction of anaesthesia is a challenge for anesthesiologist for the management of airway. Complications due to airway manipulation are one of the commonest causes for anaesthesia related

morbidities and mortalities. We report the anaesthetic management of a 70 year old male patient, having mouth opening of three finger with no teeth in both jaw scheduled for resection of a giant mass (Huge lipoma), over the upper back that Restricted flexion and extension movement of the neck. We selected RAMP position for endotracheal intubation as a safe approach in this difficult airway scenario.

Case Presentation

A 70-year-old male patient came to our medical college hospital about 6 months back, with a mobile, smooth-surfaced painless giant mass over back of the neck of 10 years duration. Size of the mass had increased recently; it had started to restrict the patient's neck movements and was causing distress by the resulting cosmetic deformity. The huge lipoma prevented him from lying in supine position, caused difficulty while sitting or getting dressed up in erect position and caused him embarrassment while facing people. The patient had no relevant family history, systemic comorbidity or any specific predisposing factor. His mouth opening was adequate with 3 finger but patient was edentulous. Local examination revealed an 12 x 10 cms sized ovoid, soft, smooth surfaced, mobile, non-tender, non-pulsatile, mass with no bruit (Fig. 1).

A fine needle aspiration cytology showed fibrofatty tissue histopathologically. A well-circumscribed ovoid homogeneous mass was detected at contrast enhanced computerized tomography. Elective surgery was planned.

Preoperative Challenges

- Geriatric age.
- Special position- head up position with 2 pillows placed below shoulders and upper back.(RAMP position)
- Oral examination- mouth opening 3 finger. MPC grade 2 with missing upper and lower teeth.
- Prone position for surgery.

In this anticipated difficult intubation, better option was to go for awake fiberoptic bronchoscopic intubation (FOB) but we used McCoy blade for intubation in this patient. A written informed anaesthetic consent from the patient for invasive airway management i.e., cricothyroidotomy, tracheostomy and ventilatory support, was taken. Preoperative fasting guidelines were followed. 30 mins, before the procedure IV access 18G cannula and IV fluid ringer lactate was started. Difficult airway trolley was prepared with emergency drugs like atropine, adrenaline, cardiovascular drugs, bronchodilators, all sized ET tubes for appropriate age and smaller, FOB, cricothyroid puncture set, tracheostomy tubes and set, ventilating bougie. The patient was brought to operation theatre and multipara monitors were attached (Heart rate, ECG, blood pressure (MAP), respiratory rate, ETCO₂). All vitals noted. Heart rate - 78/min, Blood pressure 134/80 mmHg and SpO₂ 99% on room air. The patient was maintaining head-up position, a shoulder ramp was given before intubation. Patient preoxygenated with 100% O₂ for 3 minutes. Premedication given. The patient was given inj. fentanyl 1 mcg/Kg, inducing agent inj. propofol 2 mg/Kg given. Ventilation checked. Patient can be ventilated. Followed by muscle relaxant inj. Succinylcholine 1.5 mg/Kg given. Patient intubated with cuffed endotracheal tube of no. 8.0 using McCoy blade and bougie. Air entry checked. Air entry B/L

equal and clear. Tube fixed at mark 20 and air entry rechecked. Air entry B/L equal and clear. Then long acting muscle relaxant inj vecuronium 0.1 mg/kg was given. After that prone position was given, all pressure points were taken care with proper padding and bolster placement. Patient was ventilated on volume control mode with TV 8 ml/Kg, RR 16/min, PEEP 5 cm H₂O, I:E::1:2, maintained on O₂, N₂O, sevoflurane and vecuronium top-ups. The patient's vitals were unremarkable, analgesia was given with inj. fentanyl 1 mcg/Kg and later at the near end of surgery inj. Paracetamol 20 mg/Kg. No complication was noted intraoperatively. Once the lipoma was removed and closure done, the patient was repositioned supine, reversed. The anticipated plan was to leave the endo tracheal tube in situ keeping in mind difficult airway, prolonged duration of surgery, geriatric age but as the patient could not tolerate the tube and was in severe distress, so extubation was done under strict guidance where difficult airway trolley was arranged along with an emergency tracheostomy set. No post-extubation respiratory compromise was noted.



Discussion

Cormack Grade III or IV are significantly associated with difficult intubation [6]. A guideline has been developed for management of difficult tracheal intubation in non-obstetric adults without upper airway obstruction [7] by the Difficult Airway Society. The American Society of Anesthesiologists [8], executed a closed-claim analysis in surgical patients that 17% of adverse respiratory events are related to difficult tracheal intubation. The gold standard for an anticipated difficult intubation is awake fibre optic with a flexible

bronchoscope intubation. Any large mass around the neck, a direct risk factor for airway management, is a challenge for anesthesiologist. The hallmark of successful outcome is preoperative assessment of airway, planning of safe intubation procedure, stepwise management to maintain spontaneous ventilation until after successful intubation. Other indirect specific risk factor to difficult intubation need to be recognized is appropriate positioning^[9, 10]. Securing the airway is best done in supine position. But in our case, the huge mass in the upper back which was itself a risk factor for difficult airway, interfered with the supine position. Besides in addition, the patient had edentulous denture. So, we put the patient's head on 2 pillows and a shoulder ramp before induction on the OT table. (Figure 2)

Conclusion

Proper positioning of the patient is the most important step for induction of anaesthesia as well as securing the airway. This is best done in supine position. In a patient with a huge mass over the back which interferes with a suitable supine position, RAMP position plays most important role during intubation.

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