



MANAGEMENT OF MASSIVE BLEED IN A POST-OPERATIVE CASE OF JUVENILE ANGIOFIBROMA

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ABSTRACT The nasopharyngeal angiofibroma is a very aggressive, vascular tumor that may represent a challenge for the anesthesiologist due to the risk of profuse bleeding. We report the case of a 20 years old, 50 kg, ASA1 patient, who was scheduled for bleeding during nasal packing. Mallampati 2, previous successful intubation reported. Induction was done with propofol, fentanyl, lidocaine and atracurium, followed by intubation by direct laryngoscopy. Sevoflurane and nitrous were used for maintenance. Central venous access and arterial catheterization were provided. Massive bleeding required intensive volemic resuscitation and hemotransfusion. The maxillary artery was ligated by surgeon. During the whole procedure, the patient received 2000 ml of ringer lactate, 1000ml of hydroxyethyl starch, 4 units PCV, 4 units FFP and 4 units platelet units. Serial arterial blood gas analysis revealed Hb = 6g/dL and pH was physiological all the time. Noradrenaline infusion started and titrated according to BP. The total duration of the procedure was 5 hours. The patient was sent to the ICU intubated in view of massive blood loss and airway edema for elective ventilation.

KEYWORDS : nasopharyngeal angiofibroma, massive bleed, management.

INTRODUCTION

The nasopharyngeal Angiofibroma is very aggressive hypervascular tumor that may represent a challenge for the anaesthesiologist due to risk of profuse bleeding. Juvenile Angiofibroma almost exclusively affects adolescent males. The tumor is usually benign in character but is locally aggressive and vascular. Most common symptoms are nasal obstruction and epistaxis. Juvenile Angiofibroma originates in the nasopharynx or nasal cavity and grows laterally and posteriorly, it may sometimes have intracranial invasion. The standard treatment of JNA is surgical resection after endoscopic embolization. The anesthesiologist should be vigilant for massive blood loss and resuscitation should be vigorous. Massive transfusion protocol should be activated and Intra- arterial blood pressure and central venous pressure should be monitored in such patients.

CASE STUDY

Twenty one year male ASA-I operated case of juvenile Angiofibroma presented with bleed that happened during nasal packing on third post-operative day. The JNA was present in right posterior nasal cavity, right choana and projecting in nasopharynx occupying maxillary and sphenoid sinus. Embolisation and ligation of internal maxillary artery done to control the bleed. Patient had massive bleeding episode while nasal packing in ward due to slippage of sutures. Patient was posted for exploration and resuturing. Mallampati 2, previous successful intubation reported. Pre-operative tests revealed severe anaemia Hb-7.0 g/dl. Patient came with BP- 110/70 mmhg, saturation- 99% breathing on room air. Patient taken into operating room with informed consent, blood products arranged. He was monitored with standard monitors (ECG, NIBP, pulse oximetry and capnography). After preoxygenation with 100% oxygen anaesthesia induced with fentanyl 120 micrograms, propofol 120 mg and vecuronium 5mg I/v stat followed by endotracheal intubation under direct laryngoscopy with a cuffed endotracheal tube of size 7.5 mm ID, bilateral air entry checked and tube fixed. After induction a central line was placed in left subclavian vein and invasive blood pressure was measured by catheterisation of left radial artery. Sevoflurane and nitrous were used for maintenance. Urine output was measured and patient was throughout the procedure. The initial blood gas analysis was normal. The surgical incision was given over right pyriform aperture, anterior and medial wall of right maxillary sinus removed, posterior wall punched out. Sphenopalatine and descending palatine artery cauterised, drilling done over basiocciput and basisphenoid. During the approach massive bleeding reported and massive volume resuscitation was needed, including blood transfusion ultimately maxillary artery ligation was done. In blood bank massive transfusion protocol was activated and transfusion done accordingly 1 PCV: 1 FFP: 1 PRP. During the whole procedure 2000 ml of ringer lactate, 1000ml of hydroxyethyl starch, 4 unit PCV, 4 unit FFP and 4 unit platelet were infused. Serial ABG was done PH was physiological all the time. Noradrenaline infusion titrated and tapered according to blood pressure. The total duration of procedure was 6 hours. The

patient was sent to ICU for further mechanical ventilation i/v/o massive blood loss and airway edema. During shifting bolus of 50 micrograms fentanyl and 2 mg midazolam was given. Patient was haemodynamically stable HR- 80/min, BP- 114/70 mmhg, saturation- 100% (on fio2- 40%). Total diuresis was 800ml. The patient was extubated next day and shifted to ward.

DISCUSSION

The treatment of juvenile Angiofibroma is primarily surgical. The tumor is accessed via lateral rhinotomy, transpalatal incision or endoscopy. Vascular supply comes from the carotid system via maxillary artery. Due to its rich vascular supply haemorrhage is the most common and important complication associated with surgery. Previous publications suggest significant decrease in risk of haemorrhage with preoperative embolisation.(4). Managing a Nasopharyngeal Angiofibroma may be challenging at every stage of anaesthesia. For induction, the right intubation technique must be chosen as the tumor usually invades patient's airway. (1) Rapid sequence intubation or the use of a bronchofibroscope are some choices described.(3). In this case, there was a history of successful intubation during surgery for JNA on the previous day, which led to choice of rapid sequence intubation under direct laryngoscopy. The Intraoperative haemorrhage during resection threatens patient's life constantly. The use of anti- trendelenburg position and induced hypotension are some techniques to prevent blood loss, however in our case patient came with slippage of sutures that caused bleed and required surgical exploration to control massive haemorrhage. Blood bank should be timely activated for massive transfusion protocol activation. Mean arterial blood pressure of 60 mm hg should be targeted. Urinary output ideally measured and must be between 0.5ml/kg/hr, helping to guide volemic resuscitation. Another concern is extubation. The surgical manipulation may cause traumatic airway edema.(1). Extubation must be carefully planned after assuring the absence of active bleeding.

CONCLUSION

The conclusion is that the management of juvenile Angiofibroma presents a major challenge for the anesthesiologist. There are variable potential risks throughout like bronchoaspiration or difficult airway access during induction, Intraoperative massive bleeding and airway obstruction during or after extubation.

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