Letters to Editor

AMBU-LM aura once® in management of difficult airway in post-radiotherapy oral burns patient admitted in intensive care unit

Sir,

Patients with facial burns and neck cellulitis pose challenge for an anesthesiologist and the problems aggravate when it is associated with airway edema, anatomical distortion, and airway obstruction. Radiotherapy in malignancy may produce anatomical alterations in the upper and lower airways, posing difficulty in airway management.[1,2] We encountered a 30 years old female patient of difficult airway due to postradiotherapy burns, obesity, short neck, short stature, limited mouth opening with cellulitis, and edema of cheek and neck. She was diagnosed as carcinoma ovary with metastasis in lungs and intestine. She presented in hospital casualty with cough and expectoration for 5 days. There was no other positive history except for bronchial asthma for which she was receiving bronchodilators. The patient developed mild respiratory distress 4 h after last episode of chemotherapy and was admitted to ward, where oxygen was provided via nasal cannulae at 4 L/min. Airway and local examination showed restricted mouth opening with interincisor gap of 2 cm. A black charred scar (postradiotherapy burn) of 2 × 3 cm size was present on right lip and cheek along with gangrenous margins of mouth. There was cellulitis of right cheek and gross edema of face, tongue, and neck. Both the nares were patent but trachea could not be well-palpated in neck as landmarks were not well-defined.

Further investigations revealed severe anemia, leucocytosis, thrombocytopenia, and deranged coagulation profile.
Electrocardiography showed sinus tachycardia and chest X-ray was suggestive of mild pulmonary edema. Propping up, antibiotics, and bronchodilators with supportive treatment was provided. She was transferred to the intensive care unit (ICU), where arterial blood gas analysis showed respiratory alkalosis with mild metabolic acidosis. Endotracheal intubation with mechanical ventilation on intermittent positive pressure ventilation was planned but unsuccessful even after three optimum attempts due to restricted mouth opening (2 cm), short neck, cellulitis, edema of right lip and cheek. The conventional laryngoscopy revealed Cormack and Lehane grade 4 with adequate neck movements. Ultimately, smaller size AMBU-LM® (Aura Once) size 2 was utilized as rescue airway and airway was maintained. Immediately emergency tracheostomy was done by ENT surgeon for further maintenance of airway. AMBU LM was removed and for next 3 days, the patient was maintained on mechanical ventilation and other supportive treatment. The patient, however, died on the 4th day due to severe sepsis.

In the critical care unit, up to 20% of all critical incident reports are airway-related. [3] Benumof cited an incidence of difficult airway in critical care unit as 0.0001-0.02%. [4] AMBU-LM (Aura Once®), a novel congener of AMBU-LM, due to its distinct properties, was utilised in this patient due to limited mouth opening and difficult airway. It is disposable, made up of PVC and has airway tube with 90° special moulded curve. Its shape replicates anatomy of hypopharynx, pharynx, and mouth for easy insertion without abrading upper airway. It features an extrasoft 0.4 mm cuff which reduces pressure of airway. Also, the tip of mask is reinforced, thereby preventing folding on insertion. There are no epiglottic bars in AMBU-LM and it requires lesser mouth opening (2 cm) for its insertion. The above patient had difficult mask ventilation, difficult laryngoscopy, and difficult intubation. She had deranged coagulation profile, low platelets, metastasis in lungs, tachypnea, and hypoxia. And the patient was managed with serial plans of difficult airway management and with ENT specialist back-up. Appropriate preparations were made to combat any complications in management of this emergency case.

From the present case, it can be concluded that AMBU Aura Once® may be a safe, reliable, and well-tolerated single-use SGA, though more number of studies will be required to support. It was easy to insert and provided an effective seal during positive pressure ventilation in critically ill patient with limited mouth opening. In present difficult airway situation, it was used as a rescue airway device though further studies are warranted for its similar use. Emergency departments and ICU should be well-equipped with difficult airway carts that can be helpful in emergency airway management.

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