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Editorial

Airway Assessment for Head and Neck Cancer

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Anaesthesia, coined by Oliver Wendell Holmes comes from the Greek word 'anaisthetos' meaning without sensation which comprises the components of unconsciousness, amnesia, analgesia and abolition of autonomic reflexes with or without muscle relaxation. On the other hand cancer word is also given by a Greek pioneer Hippocrates who is considered the 'Father of Medicine'. Hippocrates used the term carcinos and carcinoma for describing non-ulcer forming and ulcer forming tumours. The Greek terms actually were words that were used to describe a crab, which Hippocrates thought a tumor resembled. Cancer is the second leading cause of death after cardiovascular disease worldwide. According to World Health Organization globally, about 1 in 6 deaths is due to cancer and approximately 70% of deaths from cancer occur in low- and middle-income countries. Cancers of head and neck region mostly originates in the squamous cells that line the mucosal surfaces inside head and neck area which comprises of throat, larynx, nose, sinuses and mouth. There is a broad spectrum of causes of these cancers which includes tobacco use and alcohol primarily, others comprises of prolonged sun exposure, poor oral hygiene, poor nutrition, occupational inhalants, radiation exposure. Alcohol and tobacco collaboratively increases the risk many fold. The incidence of head and neck cancers in India has increased in recent times similar to western world due to the transmission of human papilloma virus linked to orogenital sex.

Head and neck neoplasm patients are usually nutritionally poor due to their alcohol habits and cardiorespiratory compromised because of smoking habits. As the age increases the perioperative risk of major surgery also increases. The risk benefit ratio of these kind of major surgery is to be calculated and anaesthetists play a pivotal role in deciding the treatment plan as part of the multidisciplinary team. Head and neck surgeries are a concern for the anaesthesiologists as both shares the same anatomic field.

Preoperative assessment

The preoperative assessment is latitude for the anaesthesia provider to detect any co morbidities that can lead to any complication during surgery and post operative period. A history and physical examination, focusing on risk factors for cardiac and pulmonary complications and a determination of the patient's functional capacity, are essential to any preoperative evaluation. Routine investigations include complete blood count, liver function test, kidney function test, blood sugar, coagulation profile, chest X ray and electrocardiography and viral markers. Chronic obstructive pulmonary disease is a common encounter in head and neck cancer patients which might require special investigations like pulmonary function test and echocardiography and prior optimization of these patients for any reversible element present. Systemic illness like diabetes, hypertension, thyroid disorders etc. needs to control before surgery.

Airway assessment

The role of airway assessment is to identify potential problems with the maintenance of oxygenation and ventilation during airway management. Head and neck cancer impose significant threat to airway management which may be due to the growth or radiation exposure. Trismus and restricted neck range

of motion often coexist in patients who develop tissue fibrosis after radiotherapy, posing a significant challenge for securing the airway. Previous surgery of head and neck region can also inflict notable danger for maintaining the patency of airway.

What to see in airway examination

- Atlanto occipital movement – limited head extension is indicative of difficult airway.
- Mouth opening – measured as the inter incisor distance and should be more than 4cm(2 fingerbreadths)
- Mallampati scoring – Dr. Mallampati Rao created the scoring according to co-relation between various parts of oral cavity
- Class I: Faucial pillars, soft palate, uvula seen
- Class II: Faucial pillars, soft palate seen, tip of uvula seen
- Class III: Only soft palate seen
- Class VI: Only hard palate seen
- Class 0: Epiglottis is seen- suggest difficult intubation
- Thyromental distance – normal >6.5cm
- Prognathic inability of the mandible (the mandibular incisors cannot be brought in line with the maxillary incisors) is associated with difficult intubation.

Appropriate training, experience, risk assessment and clinical judgement are seen as essential to reliably predict the difficulty of managing a particular patient's airway. Algorithms for managing the difficult airway have been outlined by national and international bodies such as the American Society of Anesthesiology and the Difficult Airway Society. These provide a basic pathway for difficult intubation.

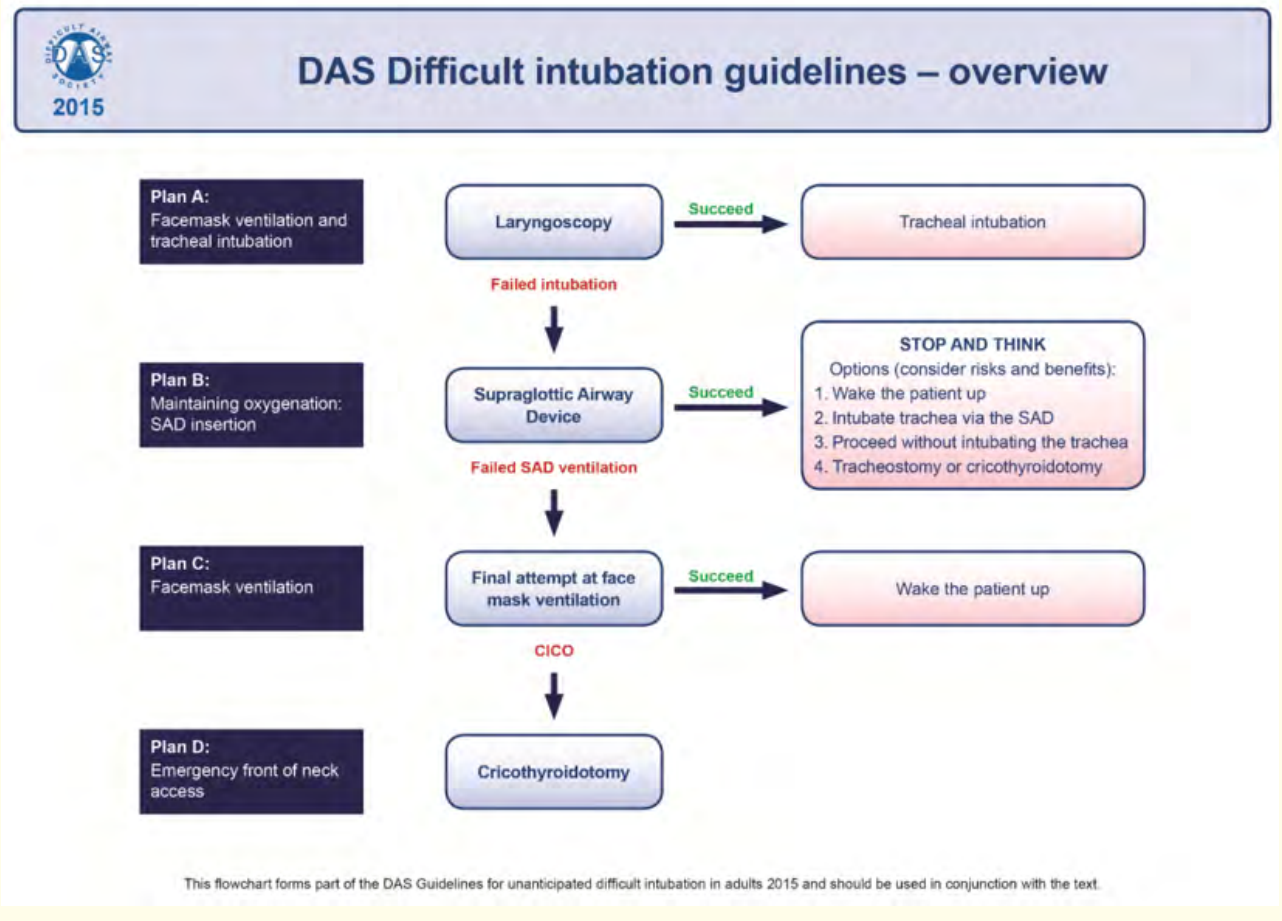

Figure 1

When there is anatomical distortion of airway because of cancerous growth, previous surgery or radiation therapy preoperative tracheostomy is a better option.