A case of Fiber optic bronchoscopy used as innovative aid for life saving in difficult surgical tracheostomy patient

- Letter to the Editor -

Sir, Surgical tracheostomy (ST) is a routinely performed lifesaving procedure having variable reported complication rate [1]. The most common reported complications are loss of airway and hemorrhage. Distorted neck anatomy is the most common cause which escalates these complication. To perform percutaneous tracheostomy various adjutants like light wand, fibreoptic bronchoscopy (FOB) and ultrasound were described to help in the identification of needle puncture and tracheal tube confirmation. However, in ST, the trachea is usually identified using anatomical landmarks without using any adjuncts. Here we discuss an encountered scenario of ST, in which FOB was used for identification of tracheal ring in a case of distorted neck anatomy.

A 58-year-old man, diagnosed case of papillary carcinoma of the thyroid, with history of multiple surgeries and radiotherapy presented with the collapse of the 5th cervical vertebra due to vertebral metastasis and respiratory distress. The patient was easily intubated using rapid sequence intubation technique in the emergency department. The patient was then placed on manual traction with peek cage over head and neck followed by plan for elective ST before the cervical spine decompression surgery. Intraoperatively, surface anatomical landmarks were not visible clearly due to the distortion of soft tissues of the neck due to prior multiple neck surgeries and radiotherapy. The skin incision was roughly made tracing the sternum back and in between the clavicles. After opening the skin and muscle layer, none of the structures were clearly visible and the trachea was not identifiable. A FOB was inserted via the ETT which made the identification of tracheal cartilages easier by transillumination. The tracheal cuff was identified which usually abuts against 2nd and 4th tracheal
cartilages and tracheal puncture was made at that level. The rest of the procedure was completed without any complications (Figs. 1A and 1B).

The first step to a successful tracheostomy without creating false passage is good positioning and neck exposure. Both the above prerequisites were missing in our patient so we planned for ST. We employ the principle of trans-illumination to pinpoint the tracheal puncture site with use of FOB, which found to be very convenient during a difficult ST. With the help of soft tissue transillumination using FOB, we prevented this potentially life-threatening danger. Therefore, in such cases where ST can be strenuous, anaesthesiologist should employ this simple novel technique as life saving manoeuvres. Illumination of soft tissues using light wand has also been used to locate trachea in difficult tracheotomies in the past [2]. To our best knowledge, this is the first use of fibreoptic in an open ST. We recommend routine use of FOB to locate trachea in anticipated difficult ST as in neck malignancies and neck fibrosis.
References


Legend for figures
Fig. 1. (A) Light of fiberoptic bronchoscope seen during surgical tracheostomy, (B) Postoperative tracheostomy in situ with peek cage traction over head and neck.