FRACTURED TRACHEOSTOMY TUBES : A PER-OPERATIVE EMERGENCY

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Introduction

Tracheostomy is being performed as a life saving procedure in an increasing number of conditions. The metallic tubes used earlier got fractured after prolonged use due to a number of reasons. Fracture of a PVC tracheostomy tube presenting as a foreign body has been noticed only in few cases. We report here, fracture of two PVC tracheostomy tubes during the procedure of insertion and fixation of tubes.

Case Report

A 24-year-old male developed respiratory distress following suicidal organophosphorous poisoning. Tracheostomy under local anaesthesia was carried out. A cuffed tracheostomy tube (Romson's) was introduced and secured by tying tapes around the neck. The tracheostomy tube was connected to a ventilator. When the tracheostomy wound was being sutured, leakage of air under the neck plate was noticed. Within seconds, the leakage become alarming. At this stage, it was decided to change the tube. After release of the tapes around the neck, as the efforts to remove the tube were being made, the neck plate together with the lateral flanges came out. Closer inspection showed upper edge of detached cannula was still attached to the neck plate by the thin inflation tube connecting the air cuff through the neck plate to the air injecting portion (Fig 1). The detached cannula was retrieved using two curved artery forceps.

Another cuffed tracheostomy tube (Romson's) was checked for insertion and in that tube also, the cannula got detached from the neck plate. Finally a cuffed protex tube was introduced and connected to the ventilator.

In the meantime, the patient had suffered a cardiac arrest, but was resuscitated successfully with external cardiac massage.

Discussion

Bossoe and Boe [1] were the first to report

Fig. 1 : Fractured tracheostomy tubes : Cannula attached to the neck plate through insufflation tube.

a case of fractured tracheostomy tube as a foreign body in the tracheobronchial tree. After that, cases have been reported by a number of workers. Earlier, fracture of only metallic tubes was reported [2]. Possible cause in these cases was erosion of zinc-copper alloy by bronchial secretions. Sood (1973) was the first to describe fracture of PVC tracheostomy tubes [3]. Cause of fracture in these tubes could be repeated boiling and prolonged use of these disposable tubes. Another reason could be radiotherapy [4]. Sullivan (1987) reported manufacturing flaws and defective fusion of the cannula with the neck plate [5]. In our case, it was clearly a manufacturing defect leading to detachment of the cannula from the neck plate.

Fracture of two PVC tubes during a single procedure is quite alarming and may prove fatal. Suggestions put forward by Okafor [6]

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should be seriously considered and the design flaws should be removed by manufacturers.

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