

Sofferman syndrome: A deadly outcome of an everyday procedure

Sir,

Nasogastric tube (NGT) insertion is a commonly performed procedure. One major associated complication is Sofferman syndrome or NGT syndrome. Since its first definition in 1990 by Sofferman *et al.*,^[1] reports of similar cases of unexplained stridor following prolonged NGT insertion have sealed it as a mounting, life-threatening problem. To the best of our knowledge, till date fewer than 50 cases have been reported worldwide. Although paediatric cases have been described,^[2,3] this entity^[1] is commoner in the elderly and immunocompromised, with the duration of NGT *in situ* varying from 12 hours to 2 weeks.^[4]

Apart from hoarseness and throat pain, there may be a stridor mandating a tracheostomy, which carries its complications of emergency airway management.^[5] Endoscopic assessments reveal bilateral vocal cord abductor palsy and upper oesophageal ulcers. The pathophysiology has been hypothesised to be myositis (as revealed in biopsy studies^[6]), due to irritation of the laryngeal abductors by the NGT through an oesophageal pressure ulcer. Another hypothesis in cases without oesophageal ulcers is the compression of the vessels supplying the posterior cricoarytenoid muscle by the NGT.^[6] The treatment is NGT decannulation, antibiotics and antacids. The abductor palsy is usually reversible, taking 10-15 days to resolve,^[4] and usually does not recur with subsequent NGT insertion. However, variants of this syndrome continue to be reported, unveiling a wide spectrum of clinical manifestations.

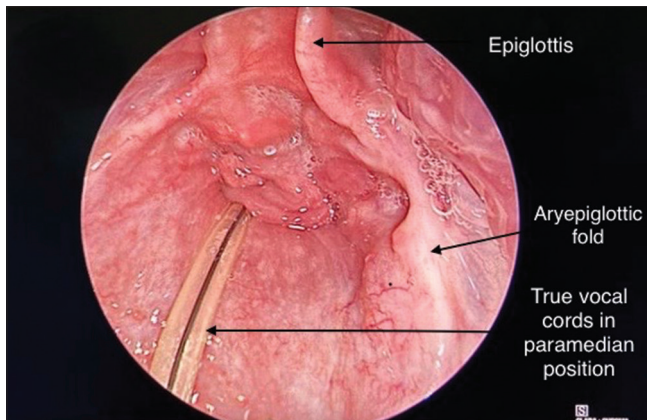


Figure 1: Findings of the endoscopic assessment of the patient at 2 years of age showing vocal cords in the paramedian position suggestive of bilateral abductor palsy

We similarly came across the case of a 10-month-old, 6.5 kg male with normal developmental milestones, who was brought to the emergency room (ER) with a history of fever for 3 days and respiratory distress for 1 day. The child was intubated and shifted to the paediatric intensive care unit. Following investigations, the child was diagnosed with bacterial pneumonia and sepsis. Broad-spectrum antibiotics and supportive treatment were effective and the child was weaned off the ventilator and extubated after 10 days of mechanical ventilation. For this period, a 10 Fr infant feeding tube was placed for enteral nutrition. The NGT was changed once due to malposition. A day after discharge, the infant was brought back with stridor and hypoxia. Subglottic stenosis or tracheomalacia were suspected. Intubation was unsuccessful in the ER. The infant was rushed to the OR and underwent an emergency tracheostomy under sevoflurane anaesthesia supplied by mask ventilation with spontaneous respiration maintained, and local lignocaine infiltration. An endoscopy revealed bilateral abductor cord palsy without oesophageal ulceration or subglottic stenosis. After ruling out various other neurological, infective, iatrogenic and neoplastic causes, like central nervous system tumours, muscular dystrophies, scarring due to intubation, viral infection, Sofferan syndrome was diagnosed. Peculiarly, even the most recent endoscopy at 2 years revealed no return of vocal cord function [Figure 1]. In such cases, treatment options include posterior cordectomy, partial and total arytenoidectomy, cord lateralisation and re-innervation. Some wait for recovery before performing a definitive procedure, especially in viral and neurological aetiologies. In our

case, definitive treatment was delayed as the child was lost to follow-up in the interim.

Some precipitating factors for Sofferan syndrome are swallowing or coughing movements against the NGT, the resting tone of the cricopharyngeal sphincter and mucosal compression against the vertebrae in supine position.^[1] Hence, some preventive measures may be considered, including avoiding traumatic and repeated attempts; using lubricant generously and having the most experienced provider insert the NGT; using an appropriately sized NGT (a smaller size causes more pressure on the mucosa); changing NGT position at-least once a day, as absolute midline position is most likely to cause trauma; changing NGT every 3-4 days; avoiding prolonged supine posturing^[1] and preferring a semi-recumbent position; considering early enterostomy for patients on chronic enteral feeding; good nutrition and appropriate antibiotics to prevent compromised mucosal integrity, delayed wound healing and superadded infections.

As described, this clinical entity can present as early as 10 months of age. Its importance lies, not in its rarity but, in its life-threatening nature, making prevention and timely diagnosis essential.

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Conflicts of interest

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