

To the Editors:

NG tube syndrome: a case report of a rare complication of NG tube

H M M Perera¹

Ceylon Medical Journal 2018; **63**: 192-193

DOI: <http://doi.org/10.4038/cmj.v63i3.8773>

Introduction

NG tube is used widely in clinical practice since its introduction in 1790 by Hunter. Although it is generally well tolerated rarely it can be associated with life threatening complications. Laryngeal injury due to NG tube was known for long [2], however NG tube syndrome was first described in 1990 by Sofferman [3]. The condition is diagnosed clinically by the presence of throat pain, bilateral vocal cord paresis with NG tube *in situ*. It is a rare phenomenon, and only a few case reports are published worldwide.

Case report

A 76-year-old female presented to ward with sudden onset left sided weakness. There was no confusion or sphincter disturbance. On examination, Glasgow coma scale (GCS) was 15, and she was afebrile. Neurological examination revealed left sided upper motor neuron facial nerve palsy and left sided hemiparesis. Lung examination revealed crepitations in the right base. Subsequently the patient became febrile. Urgent CT brain revealed no intracranial hemorrhage. Chest x-ray revealed right basal inflammatory shadows. Full blood count revealed leukocytosis with neutrophil predominance.

The patient was managed as cerebral infarction with aspiration pneumonia. Rehabilitation was started with physiotherapy, and nasogastric tube (NG tube) was inserted for feeding on day one. She gradually responded to treatment. On day 9 she complained of throat pain, and developed acute onset stridor with severe respiratory distress. Clinical examination of the lungs suggested that the pneumonia had improved. There was no other associated brainstem signs to suggest a new brainstem stroke. Urgent ENT referral was done and fiber optic

laryngoscopy revealed bilateral vocal cord palsy with severely compromised airway. There was mild post cricoid ulceration. NG tube syndrome was suspected and NG tube was removed. Tracheostomy was done and patient was started on intravenous hydrocortisone and omeprazole. Percutaneous endoscopic gastrostomy (PEG) tube was inserted for feeding. Repeat chest x-ray revealed no lesions, and contrast enhanced CT of neck and chest was clear.

The patient gradually improved, and one-week later the tracheostomy tube was accidentally pulled off by the patient. There was no stridor or respiratory distress. Repeat fiber optic laryngoscopy revealed sluggish movement with adequate glottis space. The tracheostomy was closed, and the patient was discharged with PEG tube.

The patient was reassessed at four weeks from onset. Her speech had significantly improved. Swallowing was normal and PEG tube was subsequently removed.

Discussion

NG tube is commonly used to provide enteral feeding in stroke patients. However, NG tubes are not without serious complications. Acute upper airway obstruction due to NG tube syndrome is one such devastating complication.

NG tube syndrome was first reported by Sofferman and Hubbell in 1981 [1]. It is relatively a rare phenomenon. The pathophysiology of this condition is peculiar. It is believed that the NG tube exerts pressure against the posterior cricoid lamina on which the bodies of the posterior cricoarytenoid muscle lie. This causes traumatic post cricoid ulceration. The extensive penetration of post cricoid inflammation into the posterior cricoarytenoid

¹National Hospital of Sri Lanka, Sri Lanka.

Correspondence: HMMP, e-mail: <manitha321@gmail.com>. Received 28 August 2018 and revised version accepted 03 October 2018.



This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

muscles can cause bilateral vocal cord abduction deficit [1,2].

Clinically, the patient will manifest with throat pain, odynophagia and referred otalgia [3]. NG tube syndrome should be suspected in any patient on NG tube complaining acute upper airway compromise and throat pain.

Onset can vary between 12 hours after intubation to 2 weeks after extubation [4]. Time for recovery can vary from one day to up to three months. Risk factors for NG tube syndrome are not well established due to rarity of the entity, however diabetes mellitus and immunosuppression have been suggested [3]. Our patient was non-diabetic.

The most crucial step in management is diagnosing the entity. When suspected patient should undergo fiber optic laryngoscopy [5]. This often reveals bilateral vocal cord paresis with post cricoid ulceration.

The cornerstone of management involves removal of the NG tube. Although some cases improve with this measure alone, it is said that 77% of all cases of NG tube syndrome requires tracheostomy. The patient should also be commenced on parenteral antibiotics to prevent retro-cricoid abscess, corticosteroids to reduce the inflam-

mation, together with anti-reflux therapy. If necessary, a PEG tube can be placed.

In summary, NG tube syndrome represents a rare life-threatening complication of NG tube placement. It should be considered in the differential diagnosis of respiratory distress among patients on NG tubes. Early diagnosis saves the life, and prompt management results in recovery in most cases.

References

1. Sofferan RA, Hubbell RN. Laryngeal complications of nasogastric tubes. *Ann Otol Rhinol Laryngol* 1981; **90**: 465-8.
2. Iglauer S, Molt WF. Severe injury to the larynx resulting from the indwelling duodenal tube. *Ann Otol Rhinol Laryngol* 1939; **48**: 886-904.
3. Sofferan RA, Haisch CE, Kirchner JA, Hardin NJ. The nasogastric tube syndrome. *Laryngoscope* 1990; **100**: 962-8.
4. Brousseau VJ, Kost KM. A rare but serious entity: nasogastric tube syndrome. *Otolaryngol Head Neck Surg* 2006; **135**: 677-9.
5. Marcus EL, Caine Y, Hamdan K, Gross M. Nasogastric tube syndrome: a life-threatening laryngeal obstruction in a 72-year-old patient. *Age and Ageing* 2006; **35**: 538-9.