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Transnasal oesophagoscopy as an adjunctive tool in the Otorhinolaryngology-Head & Neck Surgery clinic

Transnasal oesophagoscopy (TNO) is a technique used to visualise the aerodigestive tract with a fibreoptic endoscope under local anaesthesia. The areas visualised span from the nasal vestibule all the way to the gastric fundus. Dr Reza Shaker, a Gastroenterologist in the United States, first described this technique in 1994. Since then TNO has become a valid diagnostic tool utilised by Otorhinolaryngologists – Head & Neck Surgeons for investigating symptoms of globus, dysphagia and reflux [1]. Globus is the main presenting symptom in the case of two-week wait Head & Neck cancer referrals. TNO has also been proven to be useful for making a secondary puncture for voice rehabilitation following total laryngectomy [2].

The main appeal of TNO over other similar procedures such as oesophago-gastro-duodenoscopy (OGD) and rigid oesophagoscopy is its safety profile. TNO requires only local anaesthesia and is performed in an outpatient clinic setting. This greatly differs from OGD, which requires sedation, and rigid oesophagoscopy, which

is performed in the operating theatre under general anaesthesia. TNO is also favoured for its ease of use and high patient tolerance [3].

Transnasal oesophagoscopy: How it is done

TNO is performed on awake patients in an outpatient clinic setting. Patients are given written instructions to abstain from eating for six hours prior to the procedure but are allowed to consume carbonated drinks. In an upright sitting position, a topical decongestant and anaesthetic solution is sprayed transnasally. Lidocaine gel is also used to lubricate the endoscope. It is vital that the nasal cavity is well anaesthetised as the endoscope diameter can be up to 6.0mm wide. The laryngopharynx however, should only be lightly anaesthetised to ensure the patient's swallowing capability on demand is intact. Once anaesthetised, the endoscope is introduced transnasally and is advanced past the nasal cavity into the nasopharynx, oropharynx and subsequently hypopharynx. At this point, the patient is asked to burp, which opens the cricopharyngeal sphincter



to allow passage of the endoscope into the cervical oesophagus. The postcricoid area can also be visualised at this stage. Repeated swallowing allows the endoscope to be passed gently down the oesophagus with special attention given to the gastro-oesophageal junction (GOJ) before entering the gastric fundus. Withdrawal of the endoscope allows re-evaluation of the oesophagus with special attention to any mucosal irregularities or lesions. The entire procedure can be recorded for future review. Certain TNO endoscopes can also be equipped with biopsy forceps [4].

TNO is a quick, safe and well-tolerated screening tool which can exclude sinister pathology in patients presenting with symptoms such as globus, dysphagia and reflux [5]. Specifically, important pathologies that can be excluded with TNO are Barrett's oesophagus (BO) (Figure 1), a precursor of oesophageal adenocarcinoma, oesophageal neoplasia, and head and neck cancers. TNO enables direct visualisation of the epithelium, which allows early detection of suspicious lesions. Patients can also

undergo biopsy in the same setting. Another time- and cost-saving factor associated with TNO is that it can be performed in an outpatient clinic setting of an ENT department. Hence, patients with relevant referrals can be screened with TNO without the need for further referral to Gastroenterology or other allied specialties.

TNO is a safe procedure with high success and low complications rates. The latter is due to the fact that TNO negates the use of sedation unlike OGD where the most common complication is hypoxia, a direct sequel of sedation [6]. Moreover, TNO has been shown to be equivalent to OGD for the diagnosis of BO [7]. In certain centres, TNO has overtaken other imaging modalities such as barium swallow as a screening tool for oesophagus pathology [7].

TNO appears to have a promising role in clinical practice and in conjunction with other novel technologies such as narrow band imaging (NBI), its usage is likely to further expand in the near future.

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