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Background

Oesophagoscopy and barium radiological studies represent the primary means by which structural diseases of the oesophagus may be investigated. Until 1996, the oesophagoscopy performed by otolaryngologists has primarily been transoral approach using rigid oesophagoscope with patients under general anaesthesia. Beginning mid 1990s, otolaryngologists began to perform oesophagoscopy utilising an ultra thin, flexible scope passed transnasally, with the patients not sedated, solely relying on topical anaesthesia. This approach is called transnasal oesophagoscopy (TNE). Indications for TNE can be divided into three major categories: oesophageal, extraoesophageal and procedure related. Currently, TNE is not yet available in the Ear, Nose and Throat (ENT) department in Ministry of Health facilities in Malaysia.

Technical Features

There are two different types of TNE systems available. One is a video chip flexible endoscope system where the camera is located at the distal tip of the endoscope and the scope is attached to a video processor. The other is an add-on camera flexible endoscope system in which a camera is attached to the proximal portion of the fiberscope, usually at the eyepiece. The fiberoptic add-on camera system can incorporate a single-use, disposable TNE EndoSheath. Transnasal oesophagoscopy is an office-based procedure. The patient is seated in a standard ENT examining chair. No cardiac monitoring is necessary unlike the conscious sedation. The key to successful examination is adequate topical nasal anaesthesia and decongestion.

Policy Question

Should TNE be made available in ENT specialist clinics in Ministry of Health hospitals in Malaysia?

Objective

To assess the safety, efficacy or effectiveness and economic implication of using TNE compared with conventional oesophagoscopy for oesophageal and extraoesophageal diagnostic and therapeutic procedures by otolaryngologists.

Methods

Electronic databases such as MEDLINE, EBM Reviews-Cochrane Database of Systematic Reviews, EBM Reviews-Cochrane Central Register of Controlled Trials, EBM Reviews-HTA databases, EBM Reviews-Database of Abstracts of Review of Effects, EBM Reviews-NHS Economic Evaluation Database were searched through Ovid interface. PubMed, INAHTA database, Horizon scanning database, ASERNIP-S and FDA database were also searched. No limits were applied to the search. Additional articles were identified from bibliographies of retrieved articles and contacting the authors. Studies were selected based on inclusion and exclusion criteria. All relevant literature was appraised using the Critical Appraisal Skills Programme (CASP) and evidence was graded based on guidelines from U.S./Canadian Preventive Services Task Force and NHS Centre for Reviews and Dissemination (CRD) University of York, Report Number 4(2nd Edition), March 2001 for test accuracy studies.

Result and conclusion

A total of 67 relevant titles were identified and 39 abstracts were screened using the inclusion and exclusion criteria. Seventeen full text articles were included in this report. The articles comprised of one cross sectional diagnostic study, 13 cross sectional studies, two cross sectional studies with economic evaluation and

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one case report.

There was fair level of evidence to suggest that TNE was effective for detection of oesophageal and extraoesophageal lesions such as for screening examination in patients with dysphagia or globus pharyngeus or reflux symptoms, evaluation of patients with head and neck cancer and for detection of metachronous esophageal squamous carcinoma in patients with head and neck squamous cell carcinoma. Evidence also suggested that TNE can be used to perform a variety of procedures such as biopsy of suspicious lesions in the upper aerodigestive tract, placement of wireless pH capsule to measure the pH levels in the oesophagus, transnasal balloon dilation of the oesophagus, secondary tracheoesophageal puncture and management of foreign bodies.

There was fair level of evidence to suggest that TNE was well tolerated and can be safely performed in an office setting with topical anaesthesia. Complications associated with TNE were mild and uncommon such as self limited epistaxis, vasovagal reactions that required no treatment and self limited laryngospasm. There was no reported oesophageal perforation or major complication. There was evidence to suggest there was potential direct cost saving derived by performing TNE in the office setting compared with rigid oesophagoscopy performed under general anaesthesia.

Studies have shown TNE can be performed easily within 20 minutes, while recovery and discharge of patients were possible within two hours. TNE may lead to a change in practice from investigation and treatment in the operating theatre to office based practice under local anaesthesia.

Recommendation

Based on the above review, there seemed to be a potential cost saving derived by performing TNE in the office setting compared with rigid oesophagoscopy performed under general anaesthesia. However, the evidence for effectiveness was only of fair level of evidence. It is recommended that the use of TNE is to be limited to the Head and Neck Centres for detection of oesophageal and extraoesophageal lesions and, for therapeutic procedures. More quality clinical research is warranted to provide more high quality scientific evidence. Organizational issues such as training, manpower and funding need to be considered.