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The flexible fibreoptic rhinolaryngoscope

by

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Abstract

An accurate, reliable, inexpensive and safe method for the examination of the upper aero-digestive tract is described. Its efficacy is evaluated retrospectively on 250 patients over an 18-month period.

Introduction

Flexible fibreoptic instruments have played an increasingly important role in medicine over the past 15 years (British Medical Journal, 1974), initially in the examination of the gastro-intestinal tract (British Medical Journal, 1974) and subsequently of the bronchial tree (Silberman *et al.* 1976). The past 10 years has seen the introduction of fibrescopes specifically designed to visualize the upper aero-digestive tract (Silberman *et al.* 1976). Originally only the larynx and pyriform fossae could be inspected (Williams *et al.* 1975). In our unit, examination of these areas is still the main function of the fibreoptic rhinolaryngoscope; however, we also use the instrument to visualize the nasal cavity and post nasal space, particularly in the assessment of the soft palate and the Eustachain tube.

If required, the fibrescope may be introduced into the trachea to inspect as far as the carina.

In a co-operative patient the larynx and pharynx may be inspected by conventional indirect techniques. However, a full and satisfactory assessment of individual areas may not be possible in a small number of patients because of over-anxiety, an easily excitable gag reflex, a prominent overhanging epiglottis, or a small nasopharyngeal isthmus. In such patients, the flexible fibreoptic rhinolaryngoscope may make adequate examination of the larynx and pharynx possible.

Patients and methods

The Otolaryngology Department of Sheffield has performed 250 examinations using the fibreoptic rhinolaryngoscope over an 18-month period. Patient ages range from 10 years to 90 years. In our experience, patients under 10 years will not permit such an examination. The instrument used is an Olympus ENF-P, which has a facility for a teaching attachment and a camera (Fig. 1).

A full explanation of the procedure is given to the patient. The nose is anaesthetized with topical 10 per cent cocaine solution, bilaterally if a rhinological examination is to be performed, otherwise the left side only, as this conforms to our accepted practice. The patient also sucks a Benzocaine lozenge. If the subglottis or trachea is to be inspected, the vocal cords are sprayed with topical 4 per cent Prilocaine solution using a laryngeal syringe. Fifteen minutes are allowed for anaesthesia to take effect. The tip of the instrument is lubricated and gently introduced into the left nasal cavity. It is then advanced under direct vision, through the nose and nasopharynx, towards the larynx. All areas of the upper aero-digestive tract may be seen with ease by combining simple patient head movements with a variety of instrument manipulations. The side arm may be attached for teaching (Fig. 2); or, if appropriate, it may be offered to the patient, to view his own larynx.

Should the tip of the instrument become

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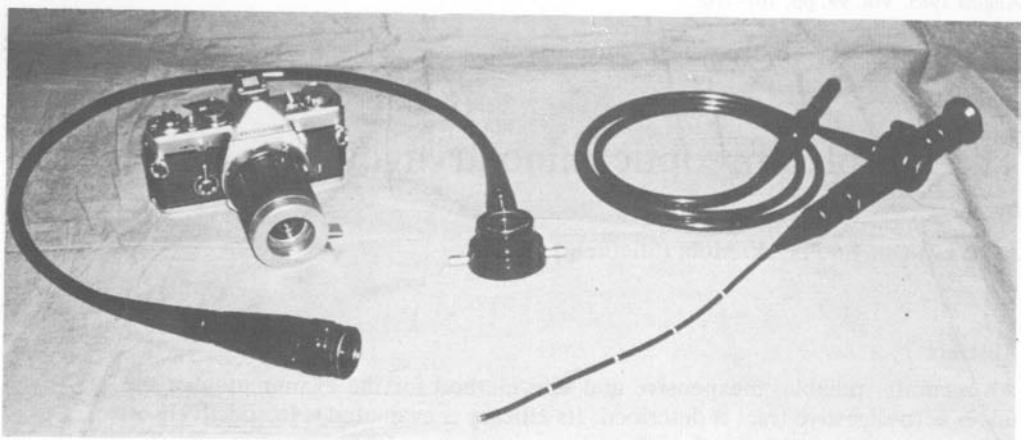


FIG. 1
The Olympus ENF-P Flexible Fibreoptic Rhinolaryngoscope with teaching attachment and camera.

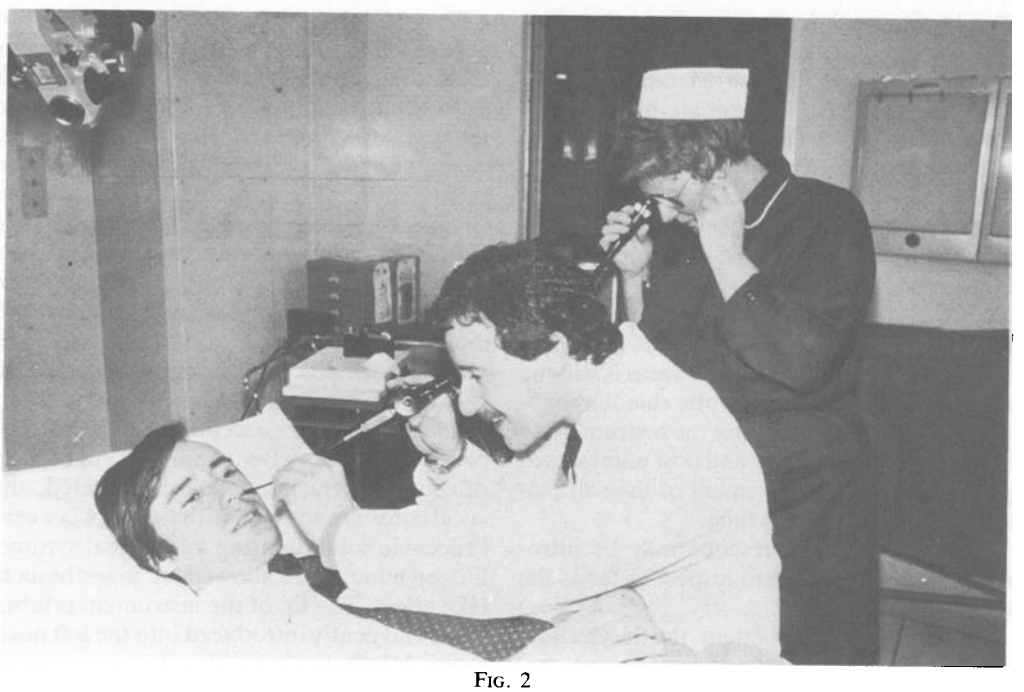


FIG. 2
The Fibreoptic Rhinolaryngoscope in use.

occluded by the patient's own secretions, he is asked to swallow, and the view is restored. At the completion of the examination, the patient is asked to fast for 2 hours.

No patient in our series has been dissatisfied or upset in any way with the examination, and no complications have been observed. All results are recorded on a specially designed sheet (Fig. 3), and are filed in the patient's notes.

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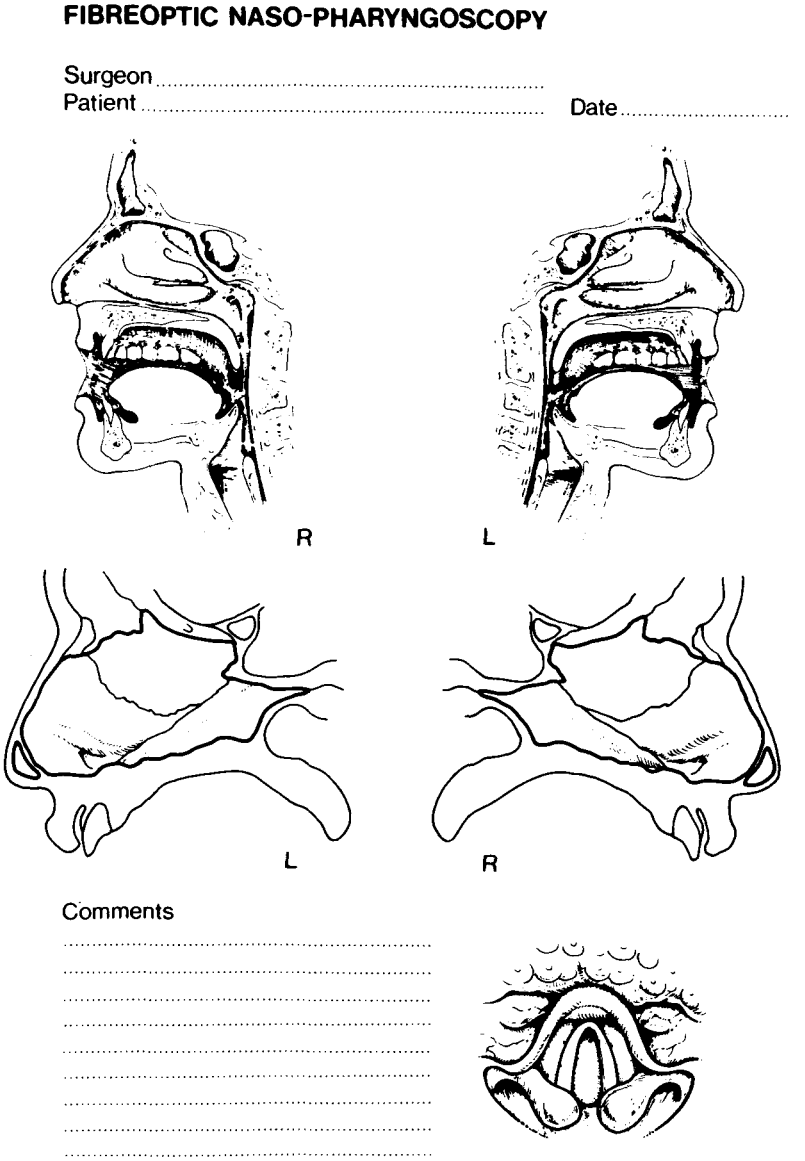


FIG. 3
Standard sheet for recording of findings.

Results

The areas of chief interest in 250 examinations were as follows:

Larynx and hypopharynx – 221 (88%)
Nasopharynx – 12 (5%)
Nasal cavity – 10 (4%)
Soft palate – 7 (3%)

Of the total numbers of examination, 156 (62%) were normal. Of the remainder, further investigations were arranged.

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Discussion

Before the use of the flexible fibreoptic rhinolaryngoscope, the accepted management by the Otolaryngologist of a patient in whom examination of the pharynx or larynx was not possible by indirect techniques, but deemed necessary, was direct examination under general anaesthesia, necessitating at least 2 nights in hospital. However, admission may be avoided if the fibreoptic examination shows no abnormalities. The investigation takes only 5 minutes and by doing so saves a considerable amount of medical time and expense (Welch, 1982). There is no biopsy facility present and we feel biopsy to be inadvisable as our fibreoptic rhinolaryngoscope is used in a busy out-patient clinic where there are only limited facilities for patient observation, lest any complications arise. It is our purpose to demonstrate the extremely useful value of a relatively new instrument in the diagnosis and management of ear, nose and throat related disorders.

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