NEW SUSPENSION DEVICE FOR LARYNGEAL ENDOSCOPIC PROCEDURES

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ABSTRACT

In view of the economic constraints in acquiring sophisticated equipments in service hospitals, a new suspension device for endolaryngeal surgery using anaesthetic laryngoscope and routinely available tonsillectomy instruments has been developed. This device is a modification of Ijadoula's suspension laryngoscope.

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KEY WORDS : Suspension laryngoscope; Laryngeal endoscopy.

Introduction

Interest in viewing the larynx dates back to early nineteenth century. The early pioneers used mirrors with aid of sunlight or candle to view the larynx. Killian subsequently developed instruments for direct laryngoscopy with external lighting [1]. Surgery within the small confines of the larynx requires steadying the structures. Lynch [2] and Lewy [3] were first to develop suspension systems to steady the patients head and free the hands of the surgeon for work. Kleinsassers suspension laryngoscope, used with a microscope, is the best method available for laryngeal endoscopy and surgery. However, because of its cost it cannot be provided to all ENT centres. Keeping the economic factor in mind, a new suspension device which is a modified version of the one developed by Ijadoula [4], has been developed and tried successfully at our hospital.

Material and Methods

The suspension system used consisted of the suspension device and an anaesthetic laryngoscope added to Draffins bipod rods, Boyle Davis mouth gag and Magaurans plate which are used in tonsillectomy (Fig. 1). Fifteen randomly selected patients who presented to the ENT OPD with hoarseness of

voice were subjected to direct laryngoscopic examination and subsequent surgery using the suspension system.

The suspension device was first attached to the anaesthetic laryngoscope. The laryngo-

Fig. 1 : Assembled suspension device.

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scope was then passed under GA and the epiglottis was lifted to visualize the entire larynx. To increase the working space, the oral cavity was stretched open by engaging the Boyle Davis mouth gag. This gag was attached to a grooved plate on the anterior surface of the suspension device on which it could slide. The grooved plate was similar to that on the tongue depressor on which the mouth gag slides when used for tonsillectomy. Draffins bipods were then used to prop up the laryngoscope by hooking Magaurans plate which was placed under the patients neck. Use of microlaryngoscopic endotracheal tube for GA further increased the available operating space.

Results

The various laryngeal lesions seen during laryngoscopy were vocal polyps (6 cases), vocal nodules (5 cases), laryngeal papilloma (1 case) and carcinoma larynx (3 cases). The patients were adults between 20-40 years of age.

All cases were subjected to surgery in the form of excision/biopsy. The excision of polyps, nodules and papilloma was aided by the fact that the suspension device held the laryngoscope in place, thus freeing both hands for surgical manipulation. While the lesion was grasped with a forceps held in one hand the other hand was free to use the scissors for excision or to use the suction cannula. Thus this provided easier and more accurate excision of various laryngeal lesions as compared to conventional direct laryngoscopic excision where one hand of the surgeon is constantly engaged in holding the laryngoscope in place.

Discussion

Direct laryngoscopic examination may be performed for diagnostic and therapeutic purposes. Therapeutic surgical procedures require steadying of laryngeal structures and the procedure is further aided if both hands of the surgeon are free.

Endoscopic examination and surgery of the larynx have come a long way since the

advent of the early direct laryngoscopes. Operative laryngoscopy for localised laryngeal lesion was successfully carried out by Lynch [5] and thereafter by Lillie [6].

Microscopic laryngoscopy and microsurgery of larynx came of age in 1970 and was carried out successfully by Strong [7] and Grundfast [8]. Kleinsassers suspension laryngoscopy alongwith microscope is the best method available today but at a big price.

The ability of our suspension device to hold the laryngoscope in place in all the patients is of great benefit compared to conventional laryngoscopy where one hand of the surgeon is engaged in holding the laryngoscope. Free hands allow better manipulation of surgical instruments, aiding suction and providing easier excision of various laryngeal lesions. This suspension system is cheap and locally made; has inherent light source from a battery and makes use of instruments already available in tonsillectomy set. There is no requirement of chest piece used in conventional suspension laryngoscope. The system can be fabricated and assembled with the help of local workshop at an insignificant cost and we recommend this to all ENT centres for endolaryngeal surgery.

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