A comparative study of endoscopic-assisted cartilage myringoplasty Vs. microscopic-assisted cartilage myringoplasty.

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Introduction: CSOM is an inflammatory process of the mucoperiosteal lining of the middle ear cleft. It has been a problem encountered in the human race, and as old as humanity itself (1). The WHO definition requires only 2 weeks of otorrhea, but otolaryngologists tend to adopt a longer duration, e.g. more than 3 months of active disease. Since the introduction of tympanoplasty in 1952 by Zollner and Wolfstein, numerous graft materials and methods of placement have been described to close the perforations of the tympanic membrane (2). Different approaches were used for the closure of tympanic membrane perforations mainly the postauricular or the endaural with placement of the graft using either the underlay or the overlay technique. Inlay myringoplasty using a cartilage graft has become a widely accepted technique for the repair of tympanic membrane perforations through a transcanal approach (3). This inlay technique provides several practical advantages, for example, no external canal packing is needed, patient postoperative comfort is enhanced, and the procedure is less expensive because of diminished operative and recovery room time (4). This study was held to illustrate whether the endoscopic permeatal transperforation cartilage myringoplasty could be a reliable alternative to the microscopy or not.

Material & Methods: The study participants were recruited from Patients with perforated drum attending outpatient clinic otolaryngology department, Cairo University. During the period of one year from January, 2015 to January, 2016, 30 patients aged from 12 to 50 years old were examined. The patients were considered to have CSOM if their symptoms, mainly ear discharge and diminution of hearing, persisted for more than 3 months.

Inclusion criteria:
1. The age of the patient should range from 12 to 50 years old.
2. The perforation should be central and of small or medium size.
3. The perforation should be dry for 3-4 weeks.
4. The ABG is matching with the size of the perforation.

Exclusion criteria:
1. The age of the patient is below 12 or above 50.
2. Subtotal or total perforation.
3. Marginal perforation.
4. The perforation is wet or dry for less than 3 weeks.
5. The presence of otitis externa.
6. The presence of otomycosis.
7. The presence of cholesteatoma.

The 30 patients were randomiz divided into 2 groups: Group 1: Fifteen patients to whom endoscopic-assisted permeatal transperforation tragal cartilage myringoplasty was performed.

Group 2: Fifteen patients to whom microscopic-assisted permeatal transperforation tragal cartilage myringoplasty was performed.

Operative technique:
Endoscopic-assisted cartilage myringoplasty: The surgical procedure was performed under general anesthesia. Using the endoscope 0 degree or 30 degree, the EAC was cleansed of cerumen. Trimming of the edges of the perforation using a needle and a forceps. Round knife was used to curette the under surface of the drum. Harvesting the tragal cartilage graft: Skin incision. After infiltration of lidocaine and epinephrine, a 1.5-cm skin incision was made just posterior to the free edge of the tragal cartilage with a no. 11 scalpel blade. Graft Exposure. The subcutaneous tissue was dissected posteriorly and anteriorly from the perichondrium using opening movements of pointed curved scissors or a mosquito over the entire surface of the cartilage. Anatomical forces help to elevate the skin and improve the view.

Graft Excision. The cartilage was pulled in a superior direction with anatomical forces to incise the cartilage inferiorly with blunt curved scissors. An anterior incision was made as deep as possible leaving 1-2 mm of the outer rim of the cartilage for cosmetic purpose. Finally, a superior incision was made aiming at getting a graft one an half the size of the perforation.

Bleeding is controlled.

In this study, the case is considered to be 'successful' if there are complete healing of the TM and improvement of hearing postoperatively.

In group 1: 13/15 patients (86.67%) are considered successful, while 2/15 patients (13.33%) are considered failed.

In group 2: 12/15 patients (80%) are considered successful, while 3/15 patients (20%) are considered failed. The results showed that the difference between the 2 groups was not statistically significant in terms of hearing improvement and healing of the tympanic membrane.