ABSTRACT

OBJECTIVE: To see the outcome of treatment of small perforations of tympanic membranes in outpatient clinic.

STUDY DESIGN: A Retrospective interventional study.

PLACE AND DURATION: ENT Department of Jaber Al-Ahmed Armed Forces Hospital Kuwait from 1\textsuperscript{st} January 2007 to 31\textsuperscript{st} December 2012.

METHODOLOGY: Selected 63 cases of dry/wet central perforation of tympanic membranes were treated in outpatient clinic with the help of filter paper and Argyrols. Actively discharging, diabetic, hypertensive and patients with marginal perforation were excluded from this study. Under microscope, margins of perforations were refreshed with the help of ear needle. Filter paper soaked in Argyrols were placed over perforations. After seven to ten days, filter papers were removed to see the results. Data was analysed on SPSS version 17.

RESULTS: Out of 63 cases, 42 (66.6\%) cases were dry and 21 (33.3\%) cases were associated with active discharge. These 21 (33.3\%) cases were treated with oral antibiotic to settle the infection. After myringoplasty, 55 (87.3\%) cases were healed, 6 (09.5\%) cases showed residual perforation because of big size of perforation. 2 (03.1\%) cases showed no response and that was due to slipping of filter paper from its place.

CONCLUSION: In Chronic Suppurative Otitis Media, Perforations of tympanic membrane can be tackled in outpatient clinic by Myringoplasty with the use of filter paper and Argyrols chemical under microscope without any local or general anesthesia.

KEYWORDS: Dry perforation, filter paper, argyrols, outpatient clinic, microscope

INTRODUCTION

History of myringoplasty is interesting and delightful. Mostly German otologist attempted different techniques. This controversial discussion is spreaded over a long area from 1878 to 1956\textsuperscript{1}. Small and medium size perforations can be handle in outpatient clinic with good results. Patients with dry perforations are selected from the clinic. They are discussed in detail about the procedure. Once they will get the message that this will save their time and money without disturbing their daily routine life, they prefer to go for this technique. Historically, various techniques and graft materials have been tried with controversial effectiveness\textsuperscript{2}. These dry perforations are usually treated by myringoplasty under general anesthesia. This need prior admission of patient, need GA fitness, surgical procedure in operating room and post operative stay of patient in hospital. Stitches of incision are required to be removed and frequent changing of ear bandages is included in this package. In our study, we evaluated the outcome of treatment of small perforations of tympanic membrane in out patient clinic.

METHODOLOGY

This retrospective interventional study was conducted at ENT Department of Jaber of Al-Ahmed Armed Forces Hospital Kuwait from 1\textsuperscript{st} January 2007 to 31\textsuperscript{st} December 2012. Sixty three patients were selected from outpatient clinic. 39 (61.90\%\) were male and 24 (38.10\%) were female (Table - I). Maximum age was 67 and minimum age was 17 (Table - II). 42 (66.6\%) cases were dry (Figure - 1) right from the beginning and 21 (33.3\%) were actively discharging (mucopurulent discharge) (Table - III). After 10-14 days of oral antibiotic therapy these perforations turned to dry. Filter paper which is easily available in market or in its place cigarette filter paper is taken after removing the tobacco from it. This filter paper is made circular by the help of punch machine. The margins of perforations are injured with the help of needle used in tympanoplasty. Instead of injuring in few cases margins were refreshed. Circular patch of filter paper soaked in argyrols and with help of crocodile forcep tucked over the perforation (Figure - 2). Injuring or refreshing of perforation margins and tucking the patch of filter paper was done under microscope using the ONLAY TECHNIQUE. After one week in small perforations and after 10 days in medium size perforations filter paper was removed under microscope (Figure - 2). We adopted following exclusion criteria. Actively discharging ears which failed to respond to antibiotics, diabetic, hypertension, patients with respiratory tract infections. Large central perforation/marginal perforation were also excluded from this study.

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RESULTS

Out of 63 cases, 39 (61.9) were male and 24 (38.1) were female. Minimum age of patient was 17 and maximum age was 67 with mean age of 32. 21 (33.33) patients had dry perforation of tympanic membranes and remaining 42 (66.66) were suffering from active mucopurulent discharge. Surgery of patients was done after treatment when ear became dry. 55 (87.5%) cases were completely healed. Six (09.5%) cases showed residual perforation and 2 (03.1%) cases showed no response and this happened due to displacement of soaked filter paper from its position. As this soaked filter paper was like a overlay graft, so its displacement was considered as displacement of the graft from its position.

DISCUSSION

Perforation of tympanic membrane which is not healing by itself is managed by procedure called myringoplasty. Myringoplasty is managed by grafts. There are several types of grafts including autologous tissues, homografts and synthetic material. These grafts are kept usually as underlay or overlay techniques. Most of the time graft is harvested from patient’s own body. Temporalis fascia, perichondrium, cartilage, fat are the common autologous grafts. This surgery is usually done under general anesthesia. In one sitting only one ear is dealt with but bilateral cases can be done if fulfilling the all criteria. Myringoplasty is done through trans canal, end aural or postural approach. There is evident scar in both end aural and postural approaches, whether it makes any difference to the patient is debatable. Patients are usually kept at least for two days in ward but Day-care myringoplasty is also in practice. Surgical audit has also been done in day care myringoplasty. Myringoplasty has also been observed in the outpatient clinic. Results of myringoplasty with the help of fascia, cartilage and perichondrium are also recorded in the literature. According to this study hearing improvement is same irrespective of graft used for myringoplasty. The gel form plug has also been used for small eardrum perforation. Tutopatch (tatogen Medical, Inc, Alachua, FL USA) a xenograft derived from bovine pericardium is also used for trans canal myringoplasty under general anesthesia. Chemical closure of chronic tympanic membrane perforations using silver nitrate and urea ointment patch is also used. Endoscopic assisted myringoplasty under general anaesthesia. Chemical closure of chronic tympanic membrane perforations using silver nitrate and urea ointment patch is also used. Endoscopic assisted myringoplasty has the advantage to see in the middle ear through perforation to rule out cholesteatoma. With the advent in tissue engineering a number of biomatrial have been studied. Silk fibroin is one of the advent of the tissue engineering and can be used for myringoplasty. Stem cell study in rats has shown enhancing healing effect in chronic membrane perforations. Myringoplasty results are do effected by the size of
perforations. Small perforations results are better than subtotal or total perforations. Following successful myringoplasty, hearing improvement is affected by many factors. Poor results are noticed in large perforations middle ear pathology and revision cases which were same found in literate. Residual perforations after reconstruction can also be dealt by many ways. It is suggested for reconstruction of for small and dry perforations of tympanic membranes. This study was not funded by any organisation or institute.

**CONCLUSION**

Out patient clinic myringoplasty in our study with the help of Argyrols and filter paper had many advantages in dealing small and medium size perforations of tympanic membranes of patients of chronic suppurative otitis media. Expenditure was very less, very less time consuming, no need of Operation Theater, and no general or local anaesthesia no leave from office work, no physical stress, no incision, no scar and no bandage.

**REFERENCES**