Anaesthesia, Pain & Intensive Care
2006; 6/1:31-32

CASE REPORT

AN UNUSUAL CAUSE OF TYMPANIC MEMBRANE PERFORATION

Col Syed Nadeemuddin Naqvi, Maj Syed Nadeem ul Haq
Department of Ear, Nose and Throat
Combined Military Hospital, Multan

ABSTRACT

This case report is about the lady who underwent myringoplasty for repair of tympanic membrane perforation under general anaesthesia. During recovery from anaesthesia, she vomited and due to this incident she developed perforation of tympanic membrane of healthy ear. Unfortunately this perforation never healed and the lady now is scheduled to undergo myringoplasty of the other ear.

Key words: - tympanic membrane, traumatic perforation, myringoplasty.

INTRODUCTION

We are reporting an unusual and bizarre case of tympanic membrane perforation. One of our patients developed tympanic membrane perforation due to a strange phenomenon while recovering from a general anaesthesia. We think that this sort of occurrence has never been mentioned in literature but theoretically it can occur in other cases too.

CASE REPORT

A 22 years old young lady had tubotympanic disease of right ear. Her ear was dry for the last three months. She had a central perforation of moderate size in right drumhead, and her right tympanic membrane was perfectly healthy, with good hearing power. After the completion of necessary prerequisites she was offered surgical treatment, that is, myringoplasty, to be performed under general anaesthesia. A day prior to the operation her pre- anaesthetic evaluation was done and she was told to remain nil by mouth after midnight. Inquiry regarding intake of any food material was made on the day of operation and even on the operating table, before inducing anaesthesia. Her answer was always negative. Cuffed endotracheal intubation was performed. Myringoplasty was carried out by endaural approach. Temporalis fascia was used for the graft and it was placed by underlay technique. After completion of the operation and dressing of the right ear, patient was handed over to the anaesthetist for recovery. As patient was coming out of anaesthesia she vomited. Immediately patients head was lowered and she was put in left lateral position. Thorough suctioning of the throat was carried out. Rest of the recovery was uneventful. Patient was sent back to the ward. She immediately started complaining of pain in the left ear. Analgesics were administered which gave her temporary relief. Patient confessed after complete recovery from anaesthesia, that she had taken some snacks and tea two hours prior to the operation, as she was feeling very hungry. She didn't tell anyone, as she feared that her operation would be postponed.

On recurrence of pain in left ear she was examined by otoscope. Surprisingly her left drumhead showed a perforation with ragged margins. The margins were hyperemic so was the portion of external auditory canal. As she was already on antibiotics, these were continued and she was advised to keep the left ear absolutely dry. She was discharged from the hospital on third post-operative day. Patient came back to the hospital on seventh post-operative day for removal of stitches but complained of feeling of slight discharge from left ear. She was examined in outpatients and purulent discharge with central perforation was noticed on examination of left ear. Pus was sent for culture and sensitivity report but no organism could be isolated.

Patients left ear became dry after a course of quinolones and regular aural toilet. Meanwhile graft in the right ear was healthy and hearing had improved. The audiogram done after few weeks from operation showed closure of air- bone gap in right ear but the left ear showed conductive deafness with good cochlear reserve. Similarly, tuning fork tests also showed that conductive loss was present in left ear now.

After six months of operation, on follow up examination, it showed that our operation on right ear was a complete success. Unfortunately, the left ear

showed persisting, round, central perforation in antero-inferior compartment with conductive loss. This time patient was offered surgical treatment that is myringoplasty for the repair of perforation in left drumhead.

DISCUSSION

Traumatic perforation of tympanic membrane is not an unusual occurrence. Exact incidence of tympanic membrane perforation is unknown. Nelson in1984, described 4% of Native American children had tympanic membrane perforation. In 1999, Golz found 3% of children treated with ventilation tubes in America had this condition. Incidence in general public has not been studied, however. Even the exact number of surgical repairs of tympanic membrane perforations performed each year in America is not known. Analysis of US government statistics indicates perhaps 150,000 tympanoplasties performed per year in a population of 250 million [1].

Any abrupt change in the air pressure in the external auditory meatus can cause injury to drumhead. This pressure change can occur in a variety of ways, including a blow on ear with a cupped hand, by use of some needle or pointed object in the external auditory meatus, by an explosion, by strong eustachian tube inflation or by barotraumas [2]. It can also occur in various surgical procedures performed on the middle ear cavity / tympanum [3].

The diagnosis is always clinical. Almost always there is some history of trauma. On examination a jagged or linear, rarely a circular tear is seen, sometime with tiny points or haemorrhage along the margin. The management is by immediate application of a disc of cigarette paper moistened with Ringer solution or 1% phenol in glycerin to make it adhere to the tear in tympanic membrane, and this acts like a splint, preventing the edges from curling under and so promoting rapid healing. Another method is to approximate the edges of the tear and than apply a small disc of Steri-strip tape [4].

Mostly no measures are required and all that is needed is 'masterly inactivity'. It heals by itself in the majority of cases unless the perforation is very large or secondary infection sets in [5].

In the above-mentioned case patient developed a tear in tympanic membrane because she vomited while recovering from anaesthesia and was placed in left lateral position. The vomitus trickled down to the dependent ear and caused chemical burns of the drumhead. We also presumed that some vomitus might have reached the tympanum and actually caused infection in the middle ear cavity, thus leading to persistence of perforation [6].

This is an unusual occurrence but it should be kept in mind: as this can theoretically occur in almost any case. This cause of tympanic membrane perforation has not been mentioned in the literature (as far as our research goes). The knowledge of this complication will help the anaesthetists and otolayringologists to be aware of this unusual phenomenon.

REFERENCES

1. Metthew LH, Carol AB. Francisco T; Medicine Journal, July 2001, Vol 2, Number 7

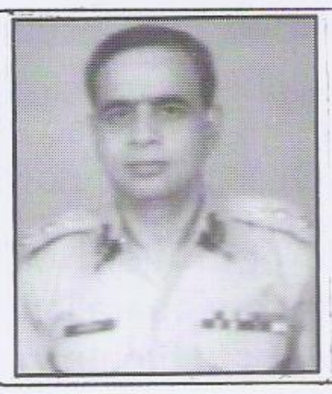
2. Glasscock ME, Shambaugh GE; Surgery of the ear, Fourth Ed. Chapter 8, pg 214

3. Kerr AG, Injuries to the ear. In; Trauma Care, edited by W. Odling-Smee and A. Crockard, London: Academic Press; 1981

4. Toner JG, Kerr AG; Scott's Brown Otolaryngology; Chapter 7, Ear Trauma.3/7/1

5. Sade J, Berco E, Brown M, Weinberg J. and Avraham S: Myringoplasty; J of Lary and Otol, 95; 653-665: 1981

6. Mills RP, Surgical management of the discharging mastoid cavity. J of Lary and Otol, Supplement 16, 1-6: 1988



Col Syed Nadeem Ud Din Naqvi *Was born in Dec 1956. He did his FSc from Adam Jee Science College, Karachi, in 1972, and graduated from Dow Medical College, Karachi, in 1979. He joined Army Medical Corps, and did his grading in ENT from AFPGMI, in April 1981, soon after which qualified MCPS in ENT. He was seconded to Armed Forces Medical Services of KSA in 1983-86. He served in various military hospitals as graded ENT specialist after repatriation. He qualified FCPS-I exam in July 1993, Part-II in March 1998. Presently he is serving as classified ENT specialist at CMH Multan*