Management of Chronic Suppurative Otitis Media

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Abstract:

This paper deals with medical management of Chronic Suppurative Otitis Media which can be followed at the health centre and district hospital level anywhere in Nepal and surgical management which is at present available to the general public at Teaching Hospital and Bir Hospital. Also discussed in detail are the precautions to be taken by the patients and / or his parents in order to prevent recurrent ear infections and the role of general practitioners and health personnel in imparting health education to these patients.

Introduction

"A report on the Sample Survey of Disabled Persons in Nepal" published in 1981 on the occasion of "The International Year Of Disabled Persons" has revealed that hearing impairment is the No. 1, physical disability in Nepal. The most common cause for deafness in Nepal as per our hospital records is chronic suppurative otitis Media. Our experience shows that some of these cases can be brought under control or cured by medical management and proper health education alone while others may require surgery.

What is Chronic Suppurative Otitis Media:

In simple language it can be described as infection of the middle ear with recurrent and / or continuous ear discharge associated with minimal to severe hearing loss. It is usually associated with perforation of the tympanic membrane.

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Suppurative otitis media usually starts in infancy or early childhood because URTI is more common in this age group and also because of the anatomical factors of the Eustachian tube. If not treated and controlled at this age, it soon becomes chronic in later part of childhood.

Types of Chronic Suppurative Otitis Media:

Two types are basically described: (1) Tubo-tympanic (2) Atticopantrol (Beales, 1979)

1) Tubo-tympanic type is also called "Safe" type of otitis media. In this type the perforation is limited to the pars tensa of the tympanic membrane and is safe because it is usually not associated with serious complications.

2) Attico-antral type is called "Dangerous" type of otitis media. In this type, perforation or pocketing of tympanic membrane is usually seen in the pars flaccida and may be associated with several complications, some of which may be fatal.

Causes and Prevention of Recurrent Discharge in Chronic Suppurative Otitis Media:

Once a person develops Acute Otitis Media associated with ear discharge, there is a perforation in the tympanic membrane of varying size. After the infection is controlled by medical therapy, the discharge stops. The perforation persists even after the discharge has stopped.

Small perforations may heal spontaneously if reinfection does not occur, but large perforations may not heal spontaneously. Healing is more rapid in children than in adults. Recurrent infections prevent even very small perforation from healing. Recurrent infection may occur through two methods:

- 1) Infection from outside
- 2) Infection from within.

1) Infection from outside:

Introduction of various kinds of oil, ear drops, or any other liquid, and entry of water into the external Auditory canal cause these fluid to enter the middle ear through the existing perforation and causes irritation, infection and discharge.

Here lies the role of general practitioners and paramedical personnel. They must strongly advise the patients and / or his parents to stop putting the above mentioned liquids (a common practice in Nepal) in the ears of these patients who already have had ear discharge due to chronic suppurative otitis media. The best way to avoid water during bathing is to plug the ears with vaseline smeared cotton balls. Some people habitually clean the ears with sticks, hair pins, and feathers (common in Nepal). Such type of cleaning must be stopped in patients with otitis media as this introduces infection.

These precautions must be continued till the perforation heals spontaneously or the perforation is repaired surgically. If the patient refuses surgery or is unable to undergo surgery because of various reasons then these precautions should be continued for the rest of the life time.

2) Infection from within:

Infection may spread to the middle ear through the Eustachian tube. URTI, namely common cold, sinusitis, pharyngitis, adenoiditis and occasionally tonsillitis may lead to recurrent ear discharge. Blowing of the nose to clear away nasal discharge, in presence of or even in absence of common cold causes the bacteria / virus to travel to middle ear through the Eustachian tube due to sudden increase in pressure in the nose and nasopharynx. Valsalva manouvere (blowing air into the ear while pinching the nose) is also very commonly practised by persons who have "blocked" ear (Prasad, 1979). This also causes the same effect as nose blowing. Entry of milk into the middle ear during feeding (more commonly associated with bottle feeding than breast feeding) specially in lying down position also causes irritation and infection. Once again the treating doctor should advise such patients to refrain from these practices in order to prevent recurrent middle ear infection.

Medical Management :

In tubo - tympanic type of chronic suppurative otitis media, the infection should be controlled by the use of broad spectrum antibiotics given orally. Gentle cleaning of the ear discharge with a clean dry swabstick is also helpful. Some authors advocate irrigation of ear with luke warm white vinegar and normal saline (1:2), (Jann and Abramson, 1984). Occasionally antibiotic ear drops, 3 - 4 drops three times daily, may be necessary.

In Nepal, recurrent ear infection is more common during summer in people who are suffering from chronic suppurative otitis media. This is so because in summers, people bathe more frequently (hence increased chance of water entering the ear) and because oil is usually put in the ears before bathing specially in children.

Hot and humid climate during summers is responsible for high prevalence of fungal infections (otomycosis) associated with chronic suppurative otitis media. This must be simultaneously treated along with otitis media. Our experience shows that otomycosis is more common in patients using steroid ear drops during summer. We recommend that steroid ear drops must be avoided in treatment of otitis media specially during summer.

Maggots associated with chronic suppurative otitis media are not uncommon in summer months in lower socio - economic group of patients.

Attico - antral type of otitis media does not respond to medical treatment because this type of otitis media is usually associated with cholesteatoma. Surgery is the only answer. However, very early cases of cholesteatoma may respond to conservative management like repeated suction clearance under the microscope and use of antibiotics.

Surgical Management :

Surgical repair of tympanic membrane in tubo - tympanic type of otitis media, popularly known as Myringoplasty, using connective tissue fascia (usually temporalis fascia), is being routinely performed at our hospitals. Myringoplasty is also known as Type I Tympanoplasty. The aim of this operation is to prevent recurrent infection and improve the hearing provided the ossicular chain is intact. If the ossicular chain is not intact, repair of ossicular chain using autograft ossicle, preserved homograft ossicles or prosthesis is also performed. This type of operation is also called Ossiculoplasty. Eradication of cholesteatoma in attico - antral type of otitis media known as mastoidectomy along with repair of tympanic membrane and/or ossicles are also being performed. Various types of operations of middle ear like myringoplasty and ossiculoplasty, done to improve hearing are also called Tympanoplasty. Tympanoplasty operation is divided into five types depending upon the type of reconstruction performed.

Recently synthetic ossicular implants have been extensively used in various parts of the world. Many surgeons however claim better results using homograft drum and ossicle (Lesinski, 1984). There is increasing controversy regarding the long term pathological reaction of the human ear towards these implants (Belal, A., Sanna, M., Gammelotte, R. 1984, Schuknecht, H. P., and Shan - Rong Shi, 1985).

In Nepal we do not have any experience with synthetic ossicular implants however by the time this article appears in print, these ossicular implants will be available at Teaching Hospital. At the Teaching Hospital we routinely use temporalis fascia for all type of tympanic membrane repair. At the Teaching Hospital we are also using either autograft ossicles or homograft ossicles preserved in 80% alcohol.

The future of ear surgery is definitely bright in Nepal.

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