

**Review article:**

**Recent advances in Otolaryngology: Brief Review**

**Dr C Anand Kumar \*, Dr MC Tayade\*\***

ENT Department, Kaminee Academy of Medical Sciences & Research Center, Hyderabad, India

Department of Physiology, Rural Medical College, Pravara Institute of Medical Sciences (DU) , Loni

Corresponding author\*\*

**Abstract**

Greater understanding of the mechanisms producing cochlear damage could make the workplace safer for 25-30 million Europeans exposed to potentially hazardous noise. Noise damages the organ of Corti by either mechanical disruption or metabolic overload. Although shattered hair cells are unlikely to return to normal function, pharmacological strategies are being devised that could counter or reverse some deleterious metabolic effects (box). Other promising avenues of research include sound conditioning<sup>6</sup> and gene therapy to increase protective neurotropic factors and increase expression of heat shock proteins, which facilitate cellular repair.

**Introduction:**

Otorhinolaryngology is a surgical subspecialty within medicine that deals with conditions of the ear, nose, and throat (ENT) and related structures of the head and neck. Doctors who specialize in this area are called otorhinolaryngologists, otolaryngologists, ENT doctors, ENT surgeons, or head and neck surgeons. Patients seek treatment from an otorhinolaryngologist for diseases of the ear, nose, throat, base of the skull, and for the surgical management of cancers and benign tumors of the head and neck.

**Recent trends:**

Greater understanding of the mechanisms producing cochlear damage could make the workplace safer for 25-30 million Europeans exposed to potentially hazardous noise. Noise damages the organ of Corti by either mechanical disruption or metabolic overload. Although shattered hair cells are unlikely to return to normal function, pharmacological strategies are being devised that could counter or reverse some deleterious metabolic effects (box). Other promising avenues of research include sound conditioning<sup>6</sup> and gene therapy to increase protective neurotropic factors and increase expression of heat shock proteins, which facilitate cellular repair.<sup>1</sup>

A pharyngeal pouch can cause progressive dysphagia, regurgitation of undigested food, weight loss, and nocturnal cough. Pouches tend to develop in later life, and many patients will have adapted their diet to cope with their disability. Some small but symptomatic pouches can be treated by cricopharyngeal myotomy. Until recently, most surgeons advocated resection of a large diverticulum together with cricopharyngeal myotomy. This is a difficult procedure. Leakage from the pharyngeal repair, fistula formation, spreading infection, recurrent laryngeal nerve palsy, late stenosis at the level of the pharyngeal closure, and recurrence have all been reported.<sup>8</sup> Average length of hospital stay is 5-7 days.

Progressive involvement of the inner ear and eye - High tone hearing loss emerges early and can progress to deafness, but is not always detected or mentioned in reports. It is associated with parallel involvement of the vestibular system which probably contributes to frequent falls, especially when vision is also compromised. Hair cells, ganglion cells, and the VIIIth nerve degenerate, with evidence of transneuronal degeneration of the central auditory pathway.<sup>2</sup>

The visual system is affected directly and indirectly by the many pathological processes of CS, with blindness as the end result in severely affected patients.<sup>3</sup> Lack of orbital fat explains the sunken eyes. Growth failure of the globe causes hypermetropia, often overlooked, and even microphthalmia in CS II/COFS. The consequence of UV sensitivity is photophobia. Inadequate tearing predisposes to conjunctivitis, corneal infection, ulceration, and scarring. The pupils are typically small and poorly reactive to light and cycloplegics. Early cataract is frequent. Contributing to poor vision are the progressive retinitis pigmentosa and optic atrophy.

#### **Audiometry:**

Pure-tone audiometry is a “gold” standard test of audiologic examination. Its role is to assess whether hearing acuity is normal or impaired. Air conduction hearing thresholds are measured for tonal stimuli at the range of frequencies from 0.125 kHz to 8 kHz with the use of headphones. Then, bone conduction hearing thresholds are measured for tonal stimuli at the range of frequencies from 0.25 to 4 kHz, with the use of a headband with oscillator. The graph, plotted by connecting all hearing threshold values for all tested frequencies, is called “audiogram,” “pure-tone audiogram,” or “tonal audiogram.” Hearing thresholds are measured in dB HL units, which are calibrated on normal-hearing young populations so that the bone conduction curve lies slightly above the air conduction curve.<sup>4</sup>

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