



## Review Article

## ENT and Head and Neck problems in geriatric population –A review

Abhimanyu Kadapathri<sup>1,\*</sup>, K.C Prasad<sup>1</sup>, S.M Azeem Mohiyuddin<sup>1</sup>, Pradeep Krishna<sup>1</sup>, Priyanka Das<sup>2</sup>

<sup>1</sup>Dept. of ENT and Head and Neck Surgery, Sri Devaraj Urs Academy of Higher Education and Research, Kolar, Karnataka, India

<sup>2</sup>Dept. of Anaesthesiology, Sri Devaraj Urs Medical College, Kolar, Karnataka, India



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## ABSTRACT

Ageing is a natural biological property of all living beings. There is an estimated 120 crore population around the world currently over the age of 65 years, it is also estimated that half of the world's population would be in geriatric group by year 2050. Developed nations have about 30% of their population in geriatric age group. In India 10% of population belong to geriatric age, even though it comparatively low with other nations the numbers are huge due to population size. Special senses such as hearing and smell are impaired along with ageing body. Other otorhinolaryngological problems are also common due to degenerative changes in head and neck region. Cosmetic problems are a concern too due to the ever increasing zeal for youthfulness in modern society. We review some of the common problems faced in the elderly.

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## 1. Introduction

Geriatric medicine is making its progress in last decade in India, but geriatric otolaryngology in particular has not attracted sufficient attention. The World Health Organization (WHO) definition of geriatric age is 65 years and above. Indian standard is 60 years and above adopted from 'National policy on older persons' formulated by the government in January, 1999.<sup>1</sup> There are amplitude of problems in the elderly. As the life expectancy increases medical problems also increase proportionately. There will be mounting pressure on health care providers in a developing country like India in the coming future. Knowledge of the prevalence of the diseases and basic principles of geriatric medicine will become essential for otolaryngologists. Every otorhinolaryngologist should understand the unique medical needs of the elderly. The Maintenance and Welfare of Parents and Senior Citizens Act, 2007 (India) was enacted to ensure need based

maintenance for parents and senior citizens and their welfare, ensuring that they may not merely live longer, but lead a secure, dignified and productive life and these are major challenges.<sup>1</sup>

Distinguishing effects of normal ageing versus disease is a difficult task as ageing leads to degeneration of various organs which in turn leads to various health related problems. The degree of available functional reserve and life style choices often reflect the degree of health related problems in the elderly.

## 2. Otoneurological Problems

Most common problems according to literature are Otoneurological problems which is strongly related to ageing.<sup>2</sup> Decreased hearing is the most common symptom, although not clearly categorized in most studies, it must be the result of presbycusis.<sup>3,4</sup> In an Indian study by Mohanta et al.<sup>5</sup> in a study population of 3563 over the age of 60 years showed otological problems in 51.77% of population of which presbycusis was the highest in

\* Corresponding author.

E-mail address: [abhimanyukadapathri@gmail.com](mailto:abhimanyukadapathri@gmail.com) (A. Kadapathri).

incidence with 17.71% of total and 34.21% of otological problems. This was followed by CSOM (8.98%), otitis externa (8.02%), tinnitus (6.54%), Wax (3.06%), ASOM (2.13%), otomycosis (2%), Retracted Tympanic Membrane (1.64%), Vertigo (1.54%) and Maggots (0.13%). Hearing loss morbidly affects the quality of life, further in the background of low socioeconomic status where access to health care facilities is restricted due to various reasons. It increases the disability burden on society in total and could be a cause of depression, isolation and suicidal tendencies in this population. A study from a rural tertiary care center in India by P.A. Giri et al<sup>6</sup> showed that presbycusis was the most common otological disorder (53.9%), author also describes on progression of ageing the incidence of presbycusis increases i.e. 50.2% between 60 and 64 years, 55% between 65 and 69 years and 56.4% above 70 years of age. These incidences corresponds to the WHO reports which showed high prevalence of otological disorders in south Asian and Saharan African countries in about one third of elderly population.<sup>7</sup> These international findings co-relate with Indian studies. Ageing factors include hair cell loss, loss of cochlear neurons, atrophy of stria vascularis and central loss due to degradation of executive function leading to high frequency sensorineural hearing loss with recruitment also there is additional atrophy of spiral ganglion which corresponds to loss of speech discrimination.<sup>8</sup> Speech becomes difficult to process if it is too fast, loud or in noisy background due to recruitment and auditory fatigue. Consonants carry meaning of speech, these would be difficult to perceive as inability to hear high tones (> 1 kHz) increases with ageing. Some of the key pointers in recognizing the onset of age related hearing loss are-

1. Generally confused with similar-sounding words and take the help of context to understand
2. Difficult to hear in a noisy background
3. Difficult to make out conversation when cross talked
4. Often it is asked to people for repeating themselves
5. The comfortable listening comes by raising the volume of TV, radio, mobile etc.
6. Family members often ask the elderly to speak loudly.
7. Elderly try to read the body language of others to understand oral communication

Treatment of age related hearing loss has a vast spectrum of options starting from hearing aids, regenerative therapies, improving nutrition, surgically treating conductive component to cochlear implants.<sup>9</sup>

Vestibular apparatus also undergoes major degenerative changes such as neuronal degeneration in maculae and cristae with neuro epithelium damage in utricle, saccule and ampulla of semicircular canals. Vertigo maybe also associate with vertebra-basilar ischemia and cervical spondylosis and aggravate the problem.

The most difficult scenario for a physician occurs with tinnitus, there are reports associated with suicidal deaths

due to refractory idiopathic tinnitus which is common in the elderly.<sup>10</sup>

### 2.1. Rhinology Problems

These constitute the least common when compared to ear and throat, but still is a significant problem. Nasal bleed is considered as a true emergency is common in the elderly. Etiology may be due to age induced vascular changes, high prevalence of hypertension and atherosclerosis and drying of nasal cavity.<sup>11</sup> Anosmia due to ageing can happen, there is a decline in number of receptor cells, thinning of olfactory epithelium, decrease of olfactory bulb size with cumulative effect of environmental damage (virus, bacteria & air pollutant) which leads to deficiency in threshold sensitivity of smell. Due to poor hygiene and atrophic changes in nose in elderly, maggots in nose are common in few regions of India.<sup>12</sup> A study by Okhaku et al noticed rhinosinusitis in 64.1% and epistaxis in only 15.1% of rhinology cases<sup>13</sup>

### 3. Throat and Laryngology Problems

These are the second most common problems following Oto-neurological problems described in literature. Some of which include snoring, day time somnolence, dysphagia, change in voice- hoarseness/breathiness, etc. Study by Bora H et al quantified voice disorders as most common ones in 12%.<sup>2</sup> Several changes like abnormal relaxation of cricopharyngeal muscle, loss of tone in vocal cords, diminished collagen synthesis in turn lead to various speech and swallowing problems. Xerostomia, diffuse esophageal spasm, laryngopharyngeal reflux, mucositis, hypogeusia or dysgeusia are common in old age. The proportion of abortive swallow increases and anomalous oesophageal contractions occur, this condition is known as presbyoesophagus.<sup>14</sup>

### 4. Other Problems

Aesthetical complaints are on the rise in elderly, because of raised awareness and ever increasing zeal for youthfulness. There is a general loss of epidermal complexity more in the face region due to decreased hyaluronic acid leading to reduced water binding capacity in epidermis. There is a decrease in sebaceous gland activity along with decreased collagen and fibroblastic activity which in turn leads to altered mechanical behavior of skin. Loose and dense skin which becomes saggy and presents with wrinkles. In developed nations Rejuvenation surgery is becoming increasingly popular.

Head and neck squamous cell carcinomas (HNSCCs) commonly arise between the fifth to seventh decades of life, but their occurrence in the elderly population is not rare. Morbidity rates increase with age, therapeutic selection becomes difficult. For a long time even when surgical

procedures were available for cancer treatment but due to unacceptable anesthetic risks and functional consequences surgery was not generally opted and palliative management was preferred. Currently, progress in anesthetic risks and reanimation and improvements in surgical reconstruction allows an increased choice of surgery during decision making especially in the older population. There are no randomized controlled trials in geriatric group regarding cancer, so there is a great need for such studies.<sup>15–18</sup>

### 5. History of geriatric otolaryngology

Quite a recent branch found in the United States of America. Jerry Goldstein, executive vice president of what is now the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) has organized a focused symposium on geriatric otolaryngology I mid-1980s.(-) In 2006 American Society of Geriatric Otolaryngology (ASGO) was established and the society has held annual meetings ever since. ASGO is a “paperless” society, and information is disseminated via its Web site, [www.geriatricotolaryngology.org](http://www.geriatricotolaryngology.org). Other International organizations like International Association of Gerontology and Geriatrics, with input from the World Health Organization are working towards initiatives regarding geriatric health. Year 1999 was observed as the International year for older persons by the United Nations general assembly. The same year, the Government of India launched National Policy on Older persons, the primary goal of which was overall well-being of the elderly, ensuring them a legitimate position in the society. It visualizes states in playing an active role in providing financial security, health care, shelter, welfare, and other needs of older persons, such as protection against abuse and exploitation. There is no specific Indian otolaryngology organization dedicated to geriatrics yet, but we might see one come up in the near future.

### 6. Conclusion

Geriatric otolaryngology is an emerging sub-specialty currently. A great deal of research is already underway on rejuvenative techniques and treatment modalities directed to problems faced by geriatric population. The elderly have issues due to social negligence, personal ignorance, ambulatory problems and non-awareness of health problems. They do not care for themselves and also are neglected by family members leading to low hospital attendance. But scenario is changing in India now. At this juncture, the government should provide free hearing assessment services and hearing aids at least for those who cannot afford them, or at least in a subsidized price. There is a need to increase specially trained manpower and continuous medical education in geriatric problems.

### 7. Conflict of Interest

None.

### 8. Source of Funding

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### Author biography

**Abhimanyu Kadapathri**, Resident

**K.C Prasad**, Unit Head

**S.M Azeem Mohiyuddin**, HOD

**Pradeep Krishna**, Resident

**Priyanka Das**, Resident

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