

## Rhinitis-Respect your nose

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We all know the functions of nose i.e. breathing and smell. The outcome of breathing is to ventilate the lungs and we also know that there is lung compliance which reflects its efficacy. But most of the people including doctors may not know that outcome of breathing is also the ventilation of middle ear and there is a middle ear compliance, which is consequently related to hearing. Rhinitis- a simple inflammatory disease of nasal mucosa, characterized by nasal discharge, nasal blockade, itching and sneezing is a very common disease in children as well as adults. Chronic Rhinitis due to its continued and exhausting character drastically influences the patient quality of life. Allergic Rhinitis is one of the most prevalent longstanding diseases. The current prevalence of allergic rhinitis is 10 to 40%. It is one of the diseases that mostly remains undiagnosed<sup>1</sup>. Atmospheric and climatic factors which are changing rapidly, largely responsible for the rising worldwide occurrence of allergic rhinitis and related constraints such as chronic obstructive pulmonary diseases, and finally it has resulted into a worldwide health issues, influencing about twenty five percent of the world's population<sup>2</sup>.

Moreover, allergic rhinitis along with its associated other illnesses related to lungs and the increasing cost of treating these conditions can grossly affect the economic features of patients as well as the community. The main issue is poor perception of this condition, which is directly related to failed control of the disease<sup>3</sup>. In addition to the direct effects of primary symptoms of rhinitis patients might encounter sleep disorders, fatigue, impaired memory and depression, all of these factors lead to reduced quality of life. Quality of life reflects happiness, comfort and prosperity. Health has a direct impact on quality of life. So keeping in mind the notable and outstanding consequences of these manifestations on patient's quality of life, making a timely diagnosis of disease is the first step towards the desired prompt actions. Consequently we can take various steps to counter the frequency of accompanying diseases of sinuses, lungs and ears. Most of the time the patients, their family members and sometimes physicians as well used to take it lightly without knowing the long term effects on patient general health and some specific diseases which at times might end up with serious complications, some of which are even fatal.

Allergic Rhinitis can have a negative impact on various components of patient's life including sleep cycle, behavior and daily activities. Children having Allergic rhinitis used to clean their nose very frequently due to nasal discharge with the upward movement of palm of their hand against the tip of nose which ultimately result in the formation of a skin crease over the nose and is called Allergic Crease, which remains there as a lifelong esthetic issue. Moreover they are prone to develop recurrent throat infections like tonsillitis, pharyngitis and also recurrent sinus infection and chronic lung diseases. Allergy may also directly involve the Lungs with or without nasal allergy. In addition, a considerable number of children develop middle ear diseases, most common among these are Otitis Media with Effusion also called Glue Ear, Acute Otitis Media and Chronic Suppurative Otitis Media (CSOM). These ear diseases have drastic effects in children health due to resultant Hearing loss (Deafness) and chronic ear discharge. Most of the clinicians (98%) admitted that recurrent upper respiratory tract infections might be accounted as a sign of undiagnosed allergic rhinitis<sup>4</sup>.

The glue ear is accumulation of sterile fluid that is mucus within the tympanic cavity and the patient feels some fullness in the ear. The fluid presses against the ear drum causing discomfort and the beginning of some hearing difficulty. In most of the cases this discomfort goes away with time, however persistent hearing loss compels the individual to seek medical advice. Although this hearing loss may improve with time but on the other hand it may be persistent and the picture will only be cleared by thorough ear examination and hearing evaluation. So if you experience a noticeable hearing loss, right away plan your appointment with the concerned clinician. The longer you wait, the more cumbersome it may be to treat and you may end up with the point of irreversible changes. Second most common ear disease due to chronic rhinitis is Acute Otitis Media which is an inflammatory disease of middle ear caused by spread of infection and inflammation from the nose and throat through the Eustachian Tube into the middle ear cavity (Tympanic Cavity), might become a chronic disease if it is not properly treated in the childhood due to frequent recurrences.

Connection of nose and throat with the middle ear cavity is through Eustachian Tube which on one end opens into lateral wall of nasopharynx and other end into the Tympanic cavity. The Eustachian tube has three clinical roles- these are pressure regulation of tympanic cavity, protection of middle ear from nasal and oral pathogens and clearance of tympanic cavity from the mucosal secretions. It is a well-known fact that rhinitis through eustachian tube dysfunction may lead to a series of ear diseases, some of which are invasive that varies from mild retraction of tympanic membrane to fulminant Cholesteatoma. An earlier study arrived in a conclusion that five out of hundred young children encountered recurrent otitis media<sup>5</sup>. In the United States, the frequency of otitis media in preschool children is gradually rising and is a vital cause for the hospital visit and becomes the sixth most common cause of doctors consultation for children under 10 years of age<sup>6</sup>. Since the chronic diseases of children is well known to have dominant repercussions on the fitness and well-being of adolescents and adulthood, it is pertinent to take notice to maintain healthy hearing throughout life.

Hence to identify the likelihood etiologies of otitis media and controlling them in the early stage is important from preventive perspective. In spite of the fact that otitis media is not a life threatening disease in children but it can adversely affect speech development which is secondary to hearing impairment with the resultant decrease in learning curve and poor life quality. Similarly in adults, long standing Rhinitis might end up with certain consequences, which at times are even fatal. One of the se is formation of Nasal Polyps. There are many issues with this disease, e.g. if medical treatment fails then surgical excision is needed, and even after multiple surgeries the polyps recur. Long standing Nasal Polyps ultimately result in fungal invasion, which by bone erosion may spread to brain and becomes fatal. Secondly Rhinitis may lead to chronic Otitis Media (Atticoantral Disease) characterized by deafness and ear discharge. Again this disease is difficult to control by medicines and results in certain extra cranial and intracranial complications e.g. Facial nerve paralysis with resultant facial disfigurement, Mastoiditis / Mastoid Abscess (Extracranial), Meningitis and Brain abscess (Intracranial).

So we see how a simple common disease might end up with many serious diseases which affects the quality of life both in children and adults and some of which are even fatal. Hence the take home message is don't take Rhinitis lightly specifically if it is long standing. The good thing is that allergic rhinitis can be well managed by medicines with remarkable results, however sometimes we have to continue the treatment for long life, but again with minimal side effects of these medicines. So respect your nose, it will not only give you a status in the community but also keep your life free of many chronic diseases of not only nose and adjacent sinuses and brain but also many diseases of ear along with associated deafness and speech problems and some of these might become fatal.

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