Pattern of Ear Diseases among Paediatric ENT Patient: An Experience from Tertiary Care Centre, Pokhara, Nepal

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Abstract

Introduction: Ear diseases are common in children mainly due to altered anatomy of Eustachian tube which is straighter in children as compared to that in adults. However, the cause of hearing loss in children is more varied, including the etiologies. This study was done to find out the pattern of ear diseases in paediatric age group attending ear, nose and throat OPD in a tertiary care centre in Pokhara, Nepal.

Materials and Methods: This is a prospective study done in paediatric patients attending ENT OPD over a period of one year from January 2010 to January 2011. The diagnoses were made on the basis of history and clinical examination. Results were expressed in numbers and percentages.

Results: Out of 1632 Pediatric ENT patients, 944 had ear diseases, 59.2% were males and 40.8% females. Wax (33.4%) was the commonest diagnosis followed by Chronic suppurative otitis media (24.3%) and Acute otitis media (13%).

Conclusion: Ear diseases are most common condition in ENT OPD among paediatric age group. Wax, CSOM and ASOM were the three most common ear diseases.

Key words: ASOM, CSOM, Paediatric ear disease, wax.

Introduction

Nepal is a landlocked country located in South Asia, surrounded by Himalayas and bordered by China and India. Majority of Nepalese people rely on agriculture. The population of Nepal is approximately 30 million1. Population below the age of 14 years is 34.6%2.

Health is vital for overall development of a child and determines his/her ability to acquire knowledge and skill. Otitis media is the most common disease in children mainly due to altered anatomy of Eustachian tube which is straighter in children as compared to that in adults1. However, the cause of hearing loss in children is more varied, including the etiologies.

In the Nepalese context, approximately 16% of the population above the age of 5 years suffer from otitis media. More than 55% of these cases occur in school going children, most of them belonging to the lower socio-economic class3.

The aim of this study was to find out the pattern of ear diseases in paediatric ENT patients in a tertiary care centre of Pokhara, Nepal.

Materials and Methods

This hospital-based prospective study was carried out between January 2010 to January 2011 in the Ear, Nose and Throat (ENT) Department, Gandaki Medical College, Pokhara, Nepal. All patients aged 16 years or younger presenting with ear diseases to the ENT clinic of the hospital and seen by ENT surgeons were enrolled into the study. The information included demographic data like age, sex, and history of ear disease was noted, and physical examination was also done. Otoscopic examination was done using Welch Allyn otoscope REF 71045 (USA).

Wax obstructing at least one quadrant of pars tensa was considered as significant and included in the study. It was considered impacted when the wax covered the whole of external auditory canal and tympanic membrane was not visible at all. Chronic suppurative otitis media implies to a permanent abnormality of the pars tensa or pars flaccida. Acute otitis media was diagnosed.
with either history of earache, fever, impaired hearing or otorrhoea and examination of tympanic membrane showing intensely red or bulging or perforation. Cases were diagnosed as otitis media with effusion if there was visible retraction and change in colour (dull) of tympanic membrane and its mobility on pneumatic otoscopy. The study proposal was reviewed and approved by Gandaki Medical College Charak Hospital Ethical committee. After getting approval from the ethical committee of our institution, informed consent was taken from guardians participating in this study. Results were expressed in numbers and percentages.

**Results**

1632 patients below sixteen years of age presented to the ENT OPD during the study period. Of them, 944 had ear disease. Five hundred and sixty one (59.2%) were males. The male to female sex ratio was 1.5:1.

Age and sex distribution are given as in Table 1 and the various types of ear disease are as in Table 2.

CSOM (Chronic Suppurative Otitis Media), ASOM (Acute Suppurative Otitis Media), OME (Otitis Media with Effusion).

<table>
<thead>
<tr>
<th>Disease</th>
<th>Male</th>
<th>Female</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wax</td>
<td>189</td>
<td>126</td>
<td>315 (33.4%)</td>
</tr>
<tr>
<td>CSOM</td>
<td>139</td>
<td>90</td>
<td>229 (24.3%)</td>
</tr>
<tr>
<td>ASOM</td>
<td>70</td>
<td>53</td>
<td>123 (13%)</td>
</tr>
<tr>
<td>OME</td>
<td>48</td>
<td>41</td>
<td>89 (9.4%)</td>
</tr>
<tr>
<td>Otitis Externa</td>
<td>45</td>
<td>36</td>
<td>81 (8.6%)</td>
</tr>
<tr>
<td>Otomycosis</td>
<td>30</td>
<td>14</td>
<td>44 (4.7%)</td>
</tr>
<tr>
<td>Foreign Body</td>
<td>14</td>
<td>8</td>
<td>22 (2.3%)</td>
</tr>
<tr>
<td>Preauricular Sinus</td>
<td>8</td>
<td>5</td>
<td>13 (1.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>10</td>
<td>28 (3%)</td>
</tr>
<tr>
<td>Total</td>
<td>561</td>
<td>383</td>
<td>944(100%)</td>
</tr>
</tbody>
</table>

**Discussion**

Ear disease is one of the major public health problems in developing countries. Wax (33.4%) followed by CSOM (24.3%) and ASOM (13.0%) were the most common ear diseases in paediatric patients in tertiary care centre. Ear diseases commonly found in this study were in the age group of 6-10 years and most ear diseases were more common in boys.

It was found that wax (33.4%) was the most common diagnosed ear disease. Even though our hospital is located in the city, it covers the rural hilly region where most of villages don’t have facilities like syringing, suctioning and hook wax removal. Adhikari et al\(^5\) found that wax impaction is the most common finding in paediatric population attending health camps in Nepal (62%), however Okafor\(^6\) in his study found wax impaction to be the third most common ear disease in the southeastern part of Nigeria. Hatcher et al\(^7\), Elango et al\(^8\) and Minza et al\(^9\) reported prevalence rates of impacted wax ranging from 8.6% to 28.2%. It is said that humidity, temperature and racial differences play an important role in wax production and impaction. Impacted wax is mostly a silent condition and may not have been attended by the caregivers of the children at school age and possibly had influence even on hearing. Jacob et al\(^10\) and Sharma et al\(^11\) reported wax as the most common cause of hearing impairment, which accounted for 29.8% and 50.0% of cases respectively. Hearing impairment was not assessed in this study; thus the possible influence of hearing due to wax could not be ascertained.

Chronic suppurative otitis media (CSOM) is a major health problem in developing countries throughout the world. It is the most common cause of persistent mild to moderate hearing impairment in children and young adults\(^12\). High rates of CSOM have been attributed to overcrowding, inadequate rates of nasopharyngeal colonization with potentially pathogenic bacteria and inadequate or unavailable health care. Poverty is a major risk factor in developing countries and certain neglected populations\(^13\). This study showed that 23.4% of children had CSOM. 72% had CSOM tubotympanic type and 28% had Attico-antral disease. The prevalence of CSOM was 6% as found by Rupa et al\(^14\), Biswas et
Otitis media with effusion (OME) is one of the most common causes of hearing impairment and one of the most frequent reasons for elective admission to hospital for surgery during childhood in the western world. According to the study done by Adhikari et al\(^5\) the prevalence among rural Nepalese school children was 4.7%. Study done in Nigeria revealed that 5.3% of children had OME\(^16\). The study found that 9.4% of cases had OME but Kishve et al found it to be in 20% in a rural medical college in India\(^18\).

Otitis externa, otomycosis, and preauricular sinus are the least common diseases in descending order in our study. Our study showed 57.8% of paediatric ENT patients had ear diseases which is comparable to the study done by Awan Z et al (47%)\(^19\). This being of a small sample size and single centred study, might not reflect the actual prevalence and pattern of ear diseases as a whole. Multicentred and large sample sized study is further needed to find out the actual prevalence and pattern of ear diseases in this country.

Conclusion

Ear diseases are one of the major health problems among children of Nepal. Wax followed by chronic suppurative otitis media and acute otitis media were the most common ear diseases in children attending the paediatric ENT OPD. Increasing awareness about ear diseases should be one of the goals of all health care providers. Improvement of health care facilities and awareness amongst health care providers would definitely be helpful in reducing the prevalence of ear diseases in developing countries like Nepal.

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