

# The Chronic Discharging Ear In The Subsaharan Africa- Need For Improved Management

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## Abstract

Chronic ear discharge is highly prevalent in the West African subregion where it accounted for about 25% of out-patient consultation. However, the treatment is often limited to outpatient ear dressing and mastoid surgery with few patient having the reconstruction of hearing. This is a review of the work done on chronic suppurative otitis media in West Africa, highlighting the need to improve ear care.

## INTRODUCTION

The chronic discharging ear is one with a perforated tympanic membrane and persistent drainage from the middle ear. Unlike otitis media with effusion which is common in the West <sup>1,2,3,4,5,6</sup>, it is highly prevalent in the West African subregion where it accounted for about 25% of out-patient consultation <sup>7</sup>. It may often be accompanied by such complications <sup>1,2,3,4,5,6,7,8</sup> including septicaemia, meningitis, brain abscess, facial paralysis and mental retardation <sup>1,2,3,4,5,6,7,8,9</sup> and it is believed to be responsible for more than two-third of deafness in children. Unfortunately, the management of the chronic discharging ear is still limited to daily ear dressing until a dry ear is achieved <sup>9,10</sup>, mastoidectomy being reserved for complications <sup>11</sup>; and facilities for middle ear reconstruction and micro-otological surgeries are largely lacking in the subregion. The other limitations to the management observed are paucity of specialized otologic clinics as well as prohibitive hospital bills.

The impact of these factors on management of the persistently discharging ears in our practice have necessitated the review of the burden of chronic suppurative otitis media, the current status of management and the possible ways for improvement in the West African subregion.

All the available publications on the chronic discharging ear/otitis media in the West African subregion were reviewed. The aim was to define the burden of the disease, the risk factors and the current treatment options available in

the subregion relative to the developed world.

## EPIDEMIOLOGY

Published reports from the West African subregion are derived mainly from schools and hospitals prevalence data. In Nigeria, Okeowo <sup>1</sup> in 1985 reported the prevalence of otitis media among urban Lagos and rural school children to be 0.6% and 3.6% respectively while Olusanya et al <sup>2</sup> reported 18.7% in Lagos in 2003. Macpherson et al <sup>3</sup> in 1985 also reported the prevalence of 55% and 48% among rural and urban children while in the Gambia, Brobby <sup>12</sup>, in 1988 reported that 50-70% of children in Ghana had experienced an episode of acute otitis media by their first birthday. However, using hospital data, Ogisi <sup>4</sup>, reported a prevalence of 7.2% in University of Benin Teaching Hospital, Nigeria while Lasisi et al <sup>7</sup> in 2002 reported that chronic discharging ears accounted for 20% of otolaryngologic clinic visits in University College Hospital, Ibadan over a period of five years. Okafor <sup>9</sup> in 1988 reported that 71% of the deafness was due to chronic suppurative otitis media. Across the subregion, deafness as a result of otitis media ranged from 68% in Sierra Leone to 71-73% in Kumasi and Enugu respectively. Approximately 10% of children with CSOM presents with complications including mastoid abscess 6.8% and facial nerve palsy 5% while meningitis and brain abscess have been reported in 3 and 2% respectively.

The need for a community based study to evaluate the burden of CSOM is further confirmed by the report of Lasisi et al <sup>7</sup> in a community survey of the traditional practices about the discharging ears. They reported that a high

proportion of the traditional healers consultations were due to otitis media and they were treated with various concoctions, some of which may be harmful to the body. In addition this often adds to delayed presentation and complications.

**AETIOLOGY/PREDISPOSING FACTORS**

CSOM in the subregion is often tubotympanic type, the cholesteatomatous variety is rare. Several studies have identified the major predisposing factors as malnutrition, measles and depressed immunity which may lead to susceptibility to recurrent infections and persistently discharging ear <sup>13</sup>. Similarly, inadequate treatment or undetected acute otitis media was also found as predisposing to chronic suppurative otitis media in a survey of general practitioners(GPs) in Ibadan. <sup>14</sup> Although adenoid enlargement has often been reported to be aetiologically related to otitis media with effusion in the West, it does not appear to contribute significantly to CSOM in the West African subregion <sup>1,9,13,15</sup>. Furthermore, in a survey of school children for OME in Nigeria, Ogisi <sup>4</sup> in Benin and Akinlade et al <sup>15</sup> in Lagos reported a prevalence rate of 1.2-6% and 9.9%-18.2% respectively. The Nigerian figures is comparable to that of Ghana but low compared to figures from Europe and America; this was similar to the observation of Murphy <sup>13</sup> in his two-year experience in Ghana. Several factors may be responsible for this variation in prevalence rate. Murphy attributed it to the dry sub-Saharan climate which is not conducive to the growth of spores, allergy and otitis media with effusion and racial and genetic factors have also been suggested.

CSOM has been reported in diverse states such as diabetes mellitus, a prevalence rate of 22.9% was reported among diabetics at the University College Hospital, Ibadan <sup>16</sup>. This apparently high rate was attributed to numerous immunological derangement caused by hyperglycaemia, ageing and microangiopathy <sup>16,17</sup>.

A case of chronic discharging ear in a HIV-positive (Human Immunodeficiency Virus) subject has been reported <sup>18</sup>. Various aetiological agents have been reported in CSOM with <sup>9,10,19,20</sup>. *Pseudomonas aeruginosa* being the commonest in all centres.

**Figure 1**  
Table 1: Aetiologic Agents

	Coker et Al LAGOS	Okafor ENUGU	Brobbay et Al GHANA	Oni et al IBADAN
<i>Pseudomonas</i> spp	38.3%	35.2%	26.8%	48.5%
<i>Proteus</i> spp	9.8%	23.5%	24.4%	8.1%
<i>Klebsiella</i> spp	9.8%	8.1%	4.6%	8.8%
<i>Candida</i> spp	5.1%	-	4.3%	0.6%
<i>Coliforms</i> spp	3.4%	8.7%	-	1%
<i>Staphylococcus aureus</i>	8.1%	2.9%	23%	22.4%
<i>Staphylococcus epidermidis</i>	9.4%	-	8.2%	8.1%
<i>Streptococcus pyogenes</i>	3.4%	-		1.3%
Mixed Flora	7.4%	4.8%		
Others	5.3%	5.5%		
No growth		11.3%		1.2%
TOTAL	100%	100%	100%	100%

**AVAILABLE THERAPEUTIC OPTIONS**

The medical management reported include the use of systemic and topical antibiotics and nasal vasoconstrictors; however it was reported that vasoconstrictors were often forgotten by the GPs thus leading to persistence of oedema at the pharyngeal end of the eustachian tube orifice and inadequate aeration of the middle ear, hence recurrent suppuration <sup>12,14</sup>. The management modalities reported were still largely limited to suction toileting of the ear and wick dressing. Brobbay <sup>14</sup> offered myringotomy to some patients in Ghana which he reported aided healing and closure of tympanic membrane perforation. In a review of 54 cases of mastoidectomy, Lasisi et al <sup>11</sup> reported successful closure of the tympanic membrane in 3 (5%) cases while there was persistence of mastoidectomy cavity with suppuration in the remaining 95%. The other postoperative complications reported were wound infections, cerebrospinal fluid otorrhoea, salivary fistula and facial nerve palsy. The lack of otological microsurgical facilities and inadequate surgical training in otology may be responsible for this apparently high complication rate. Further, the reconstruction of the tympanic membrane and the middle ear and mastoidectomy cavity has been reported by Ogisi & Adobamen <sup>21</sup> and Lasisi et al <sup>22,23</sup>. However, there is no report of hearing amplification procedures such as cochlear implant or Bone

Anchored Hearing Aid in any part of West African subregion despite the apparent high prevalence of surgically correctable hearing loss. In addition, hearing aids is unaffordable by the greater proportion of profound deaf patients<sup>24</sup>.

This sad position of otology in West Africa needs to be reversed; it will need the cooperation of all particularly, the governments and international bodies. The governments must be ready to provide upto-date otological microsurgical facilities while the international bodies particularly International Fellowship of Otorhinolaryngological Societies, American Academy of otorhinolaryngologists, European Academy and similar institutions may help with training of personnel. A structured short-term clinical fellowships in otology for young otolaryngologists in the West African sub region may be ideal. This will facilitate exposure to contemporary otological practice which will expectedly improve otological surgery. This appears to be a way of controlling the scourge of the persistently discharging ear in the subregion.

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