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CASE REPORT

Survey on the Management of Acute Ear in the ENT-CCF Department of the Ignace Deen National Hospital, Conakry (Guinea)

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Abstract

Introduction: Acute otitis media (AOM) is acute inflammation of infectious origin of the mucous membrane of the middle ear. It currently poses the problem of increased prescription of antibiotic therapy and the increase in the prevalence of bacterial resistance.

The aim of our study was to evaluate diagnostic and therapeutic habits in the ENT-CCF department of the Ignace Deen National Hospital (Conakry).

Patients and Methods: This was a dynamic, descriptive study lasting 5 months, from September 20, 2021 to February 20, 2022; the study included 112 cases out of a total of 1331 patients, i.e. a frequency of 8%.

Results: 112 patients who presented with AOM, i.e. a frequency of 8.41%, were included. The age group from 0 to 10 years old was the most represented, at 32.14%. Women predominated (60.71%). 36.6% had a history of recurrent nasopharyngitis. The most frequent reason for consultation was ear pain (79%). Nasopharyngitis and earwax blockage were the most frequently associated pathologies (49% and 23% respectively). 63.39% of our patients were admitted with congestive AOM and received medical treatment. The evolution was unfavorable in 3 cases or 2.68%.

Conclusion: Acute otitis media is a relatively common condition in the ENT department of HNID-CHU of Conakry. It is essential to organize hospital care on a diagnostic rather than a therapeutic level. It seems necessary to continue efforts in the area of continuing training and prevention; the aim being in the years to come to slow down the increase in bacterial resistance.

Keywords: OMA, Management, HNID, ENT. Sudan, Al Manqil Locality.

1. Introduction

The problem posed by AOM is the emergence of new bacterial resistance, a consequence of overdiagnosis and excessive antibiotic therapy [1]. Clinical recovery is spontaneous in 85% of cases. Despite this spontaneously favorable development, several studies prioritize the management of acute otitis media focused on reducing the prescription of antibiotics, and all the recommendations emphasize this point so it could be refocused on symptomatic treatment [1-2]. Worldwide, in 2013, the estimated incidence is 700 million cases each year, half of which occur in children under 5 years old, most of whom live in low- or middle-income countries according to data from the WHO reviewed in Italy [3].

In the United States, in 2000, the national prevalence rates of hospital admission of people under 21 years of age for AOM and its complications decreased from 3.9 to 2.6 per 100,000 inhabitants [4]. In Cameroon, a study carried out in 2018 on the epidemiological,

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clinical and therapeutic aspects of acute otitis media in Douala on 120 cases by Njifou et al [5] revealed a prevalence of AOM of 5.20%. The seriousness of their developments motivated us to carry out this work and to evaluate the knowledge of young doctors in the management of acute otitis media in the ENT department.

2. Patients And Methods

This was a dynamic descriptive study lasting 6 months, from September 20, 2021 to February 20, 2022, carried out in the ENT-CCF department of the Ignace Deen National Hospital in Conakry. All the files of patients suffering from acute otitis media received in consultation during the study period constituted our study population. We included in this study all patients in whom the diagnosis of AOM was made, and who received treatment in the ENT department.

For data entry and the design of tables and figures we used Word, Excel and Power Point software from the 2016 office pack. Epi info software in version 7.2 was used for data analysis.

Data concerning the identity of patients were processed with respect for anonymity and confidentiality of medical confidentiality.

3. Results

During our study, we recorded, out of a population of 1331 patients seen in consultation during the study period, 112 patients had AOM, i.e. a frequency of 8.41%. There were 44 (39.29%) men and 68 (60.71%) women, i.e. a sex ratio of 0.64. The age group most affected was 0 to 10 years, or 32.15%, with extreme ages of 8 months and 67 years and an average age of 22.52 years. High school seniors and students constituted the socio-professional stratum most affected, i.e. 33.93% of cases. Most of our patients were educated, i.e. a frequency of 66.07% of cases. The majority of our patients came from the commune of Matoto. Table I shows sociodemographic characteristics.

Table 1. *Distribution of patients according to sociodemographic characteristics.*

	Effective	Percentage
Age		
0-10 years	36	32,14
11-20 years	21	18,76
21-30 years	22	19,64
31- 40 years	19	16,96
41- 50 years	5	4,46
51-60 years	3	2,68
61- 70 years	6	5,36
Occupation		
Official	13	11,61
Pupil/Student	38	33,93
Housewives	24	21,43
Retirement	5	4,46
Unemployed	32	28,57
Educational level		
Primary	32	28,57
Secondary	16	14,29
University	19	16,96
Professional	7	6,25
Unschooled	38	33,93
Origin		
Matoto	33	29,46
Ratoma	31	27,68
Matam	18	16,07
Dixinn	13	11,61
Kaloum	11	9,82
Outside Conakry	6	5,36
TOTAL	**112**	**100**

Middle age: 22,52 □ 5,71ans. Standard deviation : 35,71 **Unemployed:** Pre-school children and liberals

Consultations in the ENT department were more numerous in September, representing 28.67% of cases (Figure 1). Nasopharyngitis was the most frequent antecedent (36.61%) (Table II).

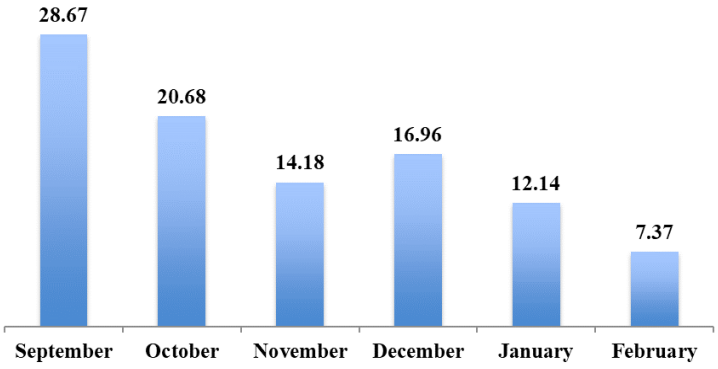

Figure 1. *Distribution of patients according to the consultation period, OMA at the ENT department of the HNID from September 20, 2021 to February 20, 2022.*

Table 2. *Distribution of patients according to history, OMA in the ENT department of the HNID from September 20, 2021 to February 20, 2022*

Background	Effective	Percentage
Nasopharyngitis	41	36,61
Recurrent otitis	33	29,46
Malaria	13	11,61
Gastritis	12	10,71
High blood pressure	9	8,03
Pulmonary pathology	4	3,58
Total	**112**	**100**

The most frequent reason for consultation was ear pain in 88 cases. Living in a community was the most present contributing factor in 55.35% of cases. According to otoscopy, the eardrum was congestive in 71 cases, or 63.39%. Nasopharyngitis was associated with AOM in 49.11% of cases. Table III shows the clinical characteristics

Table 3. *Frequency of clinical characteristics of AOM in the ENT department of the HNID from September 20, 2021 to February 20, 2022.*

	Effective	Percentage
Reason for consultation		
Ear pain	88	78,57
Rhinorrhea	57	50,89
Fever	42	37,50
Incessant crying	12	10,71
Vomiting	3	2,67
Headache	37	33,03
Vertigo	7	6,25
Tinnitus	25	22,32
Contributing factors		
Community life	62	55,35
Enlarged adenoids	9	8,03
Family history of AOM	38	33,93
Gastroesophageal reflux	12	10,71
Passive smoking	32	28,57
Presence of another child at home	61	54,46
Using a pacifier	11	9,82

Otoscopic aspects of the eardrum		
Congestive	71	63,39
Bomb	40	35,72
Perforated	1	0,89
Associated pathologies		
Nasopharyngitis	55	49,11
Cerumen cap	26	23,21
Gastritis	17	15,18
Tonsillitis	7	6,25
Sinusitis	3	2,68
High blood pressure	3	2,68
Deafness	1	0,89
Total	**112**	**100**

The majority of our patients benefited from medical treatment depending on the appearance of the eardrum in 63.39% of cases, with molecules composed of antibiotics,analgesics/antipyretics/anti-inflammatory/ nasopharyngeal clearing with physiological serum/ aspiration. We had good tolerance to medical treatment in 99 patients or 88.39% and only 1.78% of cases presented adverse effects. Table IV shows the therapeutic characteristics

Table 4. *Frequency of therapeutic characteristics of AOM in the ENT department of the HNID from September 20, 2021 to February 20, 2022.*

		Effective	Percentage
Treatment regimens	**Ear-drum**		
Antibiotic, Painkillers/ /Antipyretic/ Anti inflammatory/ Nasopharyngeal unblocking/ Suction	Congestive	71	63,39
Antibiotic, Painkillers/ /Antipyretic/ Anti inflammatory Nasopharyngeal unblocking/ Suction	Bomb	40	35,72
Antibiotic, Painkillers/ /Antipyretic/ Anti inflammatory/ Nasopharyngeal unblocking / Ear drops/ Suction	Perforated	1	0,89
Duration of treatment for AOM	**Periods**		
	0-3 days	11	9,82
	4-7days	88	78,57
	8-11days	11	9,82
	> 12days	2	1,79
Total		**112**	**100**

The evolution was good in 109 cases, representing a frequency of 97.32%. We recorded one (1) case of deafness and two (2) OMC cases, i.e. 2.68 cases of unfavorable development.

4. Discussion

During our study period, we recorded a total of 1331 patients, 112 of whom presented with AOM, representing a frequency of 8.41%. This result is significantly higher than that found by Njifou et al. [5] in 2018 in Douala, which reported a frequency of 5.20% of AOM. Worldwide, the estimated incidence of AOM is 11% [4] (709 million cases each year). This gap can be explained on the one hand by differences in sample sizes and the greater exposure of children to the vectors and factors favoring AOM from one period to another.

On the other hand, children in the age group of 6 months to 7 years are faced with an increase in compulsory adaptation diseases when they are no longer protected by maternal antibodies.

During our study, children under 10 years old were the most affected with a frequency of 32.14%; The age groups (11-20 years) and (21-30 years) represented 21% and 22% respectively. This result is similar in terms of age groups to those of OA DIALLO et al [6] in Guinea in 2023, i.e. 36.19% of patients were between (7 years–11 years). These results sufficiently prove that AOM is one of the most common ENT pathologies in children who have a short Eustachian tube; horizontal; gaping thus facilitating contamination of the cavities of the middle ear by secretions coming from the nasopharynx.

On the other hand, the young adult age group is the one that is exposed to vices such as active smoking and alcohol, which promote the occurrence of ENT pathologies.

Out of a total of 112 patients suffering from AOM, the female gender was the most affected 68 cases or 60.71% compared to 44 male cases 39.29% with a sex ratio of 0.65. Contrary to Roy E et al [7] in 2012 in Bangladesh who found 56.57% male and 43.3% female. This female predominance is not significant in the genesis of AOM, it is not just a coincidence. Our study benefited from a high rate of educated patients in the ENT department, i.e. 66.07% of cases. This level of education facilitated, on the one hand, communication between the respondent and the investigator, Doctor-Patient understanding and early consultation for better immediate care at the onset of symptoms.

The high representation of patients from urban areas (94.64%) would be linked to their proximity and the choice of the study setting. They will have facilitated access to quality care to prevent the occurrence of complications of acute otitis media. Patients from rural areas accounted for 5.36%. This frequency justifies the low socio-economic level which makes it difficult for them to move to the specialty service.

During our study period, we recorded 28.67% AOM in September; 20.68% in October; 14.18% in November; 16.96% in December; 12.14% in January and 7.37% in February, confirming that ENT pathologies in children are common during harmattan and winter. These results are comparable to those of the OA study. DIALLO et al [6] who recorded 26.48% AOM in August, 18.86% in July, 16.57% in September and 18.66% in December. In our study, a history of nasopharyngitis (36.61%) and recurrent otitis (29.46%) were the most common. Ear pain was the most frequent reason for consultation, with a frequency of 78.57% of cases, associated with fever in 37.50% of cases. On the other hand, Njifou et al. [5] in 2018 in Daoula found 93.3% ear pain followed by otorrhea (70.8%) then fever (42.5%). These results are comparable, because the two studies were all carried out in patients seen in consultation in the ENT departments of these hospitals. Otoscopy is the key examination for the diagnosis of AOM. All our patients underwent systematic otoscopy. Regarding otoscopic forms, more than half of the population studied, i.e. 63.39% of cases, presented congestive otitis media and 35.72% of cases had otitis media with a bulging eardrum. These results clearly illustrate the difficulty of diagnosis, which also depends on the experience of the examiner, the otoscopy equipment used and the examination conditions (presence or absence of earwax for example).

During our study, nasopharyngitis was the pathology most associated with AOM (49.11%) of our patients. This result is lower than the study by OA Diallo et al [6] in 2023 in Guinea, i.e. a frequency of 87.62% of cases. This discrepancy is explained by the differences in sample sizes during the different studies.

The treatment of AOM depends from country to country; its evolutionary stage and the complications it causes. In developed countries, antibiotic therapy is not systematic due to the fact that patients are properly monitored. In third world countries; to prevent possible complications; probabilistic antibiotic therapy is systematically prescribed. Therapeutic treatment was based on otoscopic data and the complications encountered. Washing the nasal passages with physiological saline is overall a beneficial approach in the management of AOM. During the treatment of our patients, the overall result was favorable; on the other hand, we recorded 3 patients or 2.68% cases of complications such as chronic otitis media with closed eardrum and conductive deafness. During our study period we recorded 9.82% of patients who responded that they were relieved just 3 days after their first treatments, compared to 78.57% of patients who did not feel ear pain or other signs after 7 days of treatment. ; our studies are comparable to those provided by Hoberman A et al [8], in Belgium in 2016, 93% of patients were cured after 10 days of treatment and 85% of children in this group were relieved after 5 days, and antibiotic therapy remains independent for the PEC of AOM in children and adults.

5. Conclusion

The apprehension of recommendations regarding the management of AOM remains a concern in the ENT-CCF department of the Ignace Deen National Hospital, because acute otitis media is a relatively common condition. It seems necessary to continue efforts in the field of continuing education and prevention, the aim being, in the years to come, to slow down the increase in bacterial resistance.

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Appendices

Survey on the Management of Acute Ear in The ENT-CCF Department of the Ignace Deen National Hospital, Conakry (Guinea)

Investigation Sheet N°.....

General Information : Date Of Consultation.../.../.....

Responsible Person:……..

Name

First Names

Age

Sex

Weight (Kg)

Occupation

Address

Neighborhood

TEL:landline..... cell:.....

Education Level :……

Quizzes

What motivated you to come to the Ignace national hospital ?

1- Ear pain Yes ☐ No ☐

2- Fever Yes ☐ No ☐

3- Rhinorrhea Yes ☐ No ☐

4- Did your child cry when touching his ear ? Yes ☐ No ☐

5- Otorrhea Yes ☐ No ☐

6- Headache Yes ☐ No ☐

7- Vomiting Yes ☐ No ☐

8- Diarrhea Yes ☐ No ☐

9- Tinnitus Yes ☐ No ☐

10-Hypoacusis Yes ☐ No ☐

Other (s) to be specified……..

Favoring factors:

a- Do you have people who have demonstrated otological diseases (OMA family ATCD) Yes ☐ No ☐

b- passive smoking yes ☐ No ☐

c- Your doctor told you about a enlarged adenoids Yes ☐

No ☐

d- Tubaire dysfunction Yes ☐ No ☐

e- Do you feel the burns of the stomach (esophageal gastro-duodenal reflux) Yes ☐ No ☐

f- The number of children living at home its greater than two (community) Yes ☐ No ☐

g-Viral infections of the upper airways Yes ☐ No☐

Others:……

Pathological history: No ☐ if Yes ☐ to specify:……..

Otoscopic appearance of the eardrum

ASPECTS OF THE EARDRUM	YES	NO
Congestive eardrum		
Bulging eardrum		
Perforated eardrum		

Other (s) to be specified……..

Associated pathology

ASSOCIATED PATHOLOGY	YES	NO
Rhinopharyngitis		
Malaria		
Diarrheal diseases		
Broncho-pneumopathy		
Tonsillitis		
Ethmoiditis		

Other (s) to be specified…….

Therapeutic

DRUGS	YES	NO
Antibiotic		
Analgesic/anti inflammatory/anti pyretic		
Ear drops		
Nasal drops		
Physiological serum		

Type of antibiotic prescribed

Amoxic-clavulanic acid	
Associated aminoglycosides	
C3G	
C2G	
C1G	
Macrolide	

How many days do you think it took for you to feel better?

0-4 days ? ☐ 5 -7 days? ☐

8-11 days ? ☐ - more de 11 days ? ☐ It's not going well so far ☐

How were you feeling at the moment ?

Good progress ☐ Poor development ☐

Complications to be clarified