



## Congestive Acute Otitis Media of Children in Mali with or without Antibiotic, Place the Analgesic?

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**Received:** March 09, 2016; **Accepted:** April 01, 2016; **Published:** April 05, 2016

### ABSTRACT

Acute otitis media is the most common ENT pathology, childhood acute otitis media is evolving in a particular way. The place of antibiotic therapy in the treatment of this pathology is sometimes subject of controversies as evidenced by studies depending on the country.

**Aim:** To access a therapeutic strategy for acute otitis media of the child in its congestive namely phase: is it justified the antibiotic and the place of the analgesic for this stage of otitis media?

**Methods:** 109 patients aged 10 days to 15 years with acute otitis media in its phase congestive, attending Unit of the ENT Diseases, between 2013 and 2014 were selected for studies. Patients were reviewed at the 4<sup>th</sup> and 8<sup>th</sup> days to appreciate the aspect of the tympanic membrane (color, reliefs, hypervascularisation) and clinical signs (otalgia, fever). A therapeutic approach to antibiotic therapy and the prescription of the analgesic in the congestive phase of acute otitis media has been evaluated.

**Results:** We noted a male predominance. The age of the patients ranged from 10 days to 15 years with an average age of 2.74 years. Our study confirms the non-systematic use of the antibiotic and the imminent place of the analgesic in the treatment of congestive acute otitis of the child.

**Conclusion:** Congestive OMA is a frequent in children of less than three years in our unit. Our study confirms another therapeutic approach at the congestive acute otitis media of the child.

**Keywords:** Acute otitis media, Child treatment tropics

**Introduction:**

Acute otitis media (AOM) is a common disease of childhood, It is most appropriately diagnosed by careful otoscopy with an understanding of clinical signs and symptoms<sup>1</sup>.

In our unit around 55% under the age of 15 were reported to have ear infections in 2014. It is one of the most common infectious diseases of childhood and the most frequent indication for antibiotic use in children<sup>2</sup>.

Makes timely diagnosis allows appropriate treatment which avoids the development of this pathology to the sometimes serious complications (mastoiditis, meningitis, thrombophlebitis of the lateral sinus, brain abscess, facial paralysis).

The therapeutic strategy depends mainly on the stage of acute otitis media (congestive or suppurative).

Acute otitis media (AOM) is a spontaneously remitting disease for which pain is the most distressing symptom. Antibiotics are now known to have less benefit than previously assumed<sup>3</sup>.

AOM is routinely treated with antibiotics and, because of the large number of visits, accounts for a considerable percentage of all outpatient antimicrobial prescriptions; The benefit of antibiotic treatment of AOM is controversial, however, for children older than 6 months; Meta-analyses and systematic reviews of the literature have found a

spontaneous resolution rate of 81% compared with a 93% resolution rate with antibiotic therapy, for an overall benefit of shortening the course of AOM by 1 day in 1 of 8 children treated<sup>4</sup>.

Suppurative complications, such as acute mastoiditis, are rare, and the extensive use of antibiotics contributes to bacterial resistance; Several recent reports document the efficacy and safety of 2 alternative, observational approaches to routine use of antibiotics: delayed prescription and watchful waiting; These approaches involve waiting for 72 hours to see if symptoms improve before instituting antibiotic therapy<sup>4</sup>.

The place of antibiotic therapy in the treatment of this pathology is sometimes subject of controversies as evidenced by studies depending on the country<sup>4-8</sup>.

This study will allow us to enjoy some of its therapeutic methods commonly used for acute otitis media of the child in a tropical environment, depending on its specific.

#### Objectives:

To access a therapeutic strategy for acute otitis media of the child in its congestive namely phase: Is it justified the antibiotic and the place of the analgesic for this stage of otitis media?

#### Materials and Methods:

109 patients aged 10 days to 15 years with acute otitis media in its phase congestive, attending Unit of the ENT Diseases, Reference Health Center, District IV of Bamako (Mali), between 2013 and 2014 were selected for studies.

Inclusive Criteria's: All patients with acute congestive otitis media confirmed otoscopic examination with a magnifying glass were selected.

Exclusive Criteria's: All patients with acute otitis media, suppurative or congestive who already received a therapy with antibiotics and/or analgesic.

Informed consent regarding the procedure was done.

Patients were reviewed at the 4<sup>th</sup> and 8<sup>th</sup> days to appreciate the aspect of the tympanic membrane (color, reliefs, hypervascularisation) and clinical signs (otalgia, fever)

To assess our therapeutic approach to antibiotic therapy and prescription of the analgesic in the congestive acute otitis media, two groups of patients were trained:

Group I: 58 patients treated with antibiotics (oral per os) + analgesics and anti-inflammatory drugs (oral and local forms)

Group II: 51 patients treated without antibiotics, but only analgesics and anti-inflammatory (local and oral forms)

#### Results:

##### α) Sex

We noted a male predominance (65 M/44 F) - 59.63%.

Group I: sex ratio in favor of boys 1.55 (31/20)

Group II: sex ratio in favor of boys 1.42 (34/24)

##### β) Age

The age of the young patients ranged from 10 days to 15 years with an average age of 2.74 years.

Group I: average age of 3.17 years

Group II: average age of 2.74 years

χ) The aspects of the tympanic membrane compared to days of observations (Table 1)

#### Discussion:

Our study confirmed the place of treatment of acute pain by analgesic in the congestive phase of otitis media in a tropical environment, it was important for us to evaluate a therapeutic strategy towards the use iterative and irrational of antibiotic therapy by practitioners in the treatment of acute otitis media.

Acute otitis media (AOM) is one of the most common childhood infections, the leading cause

Days of treatment	Aspect of the tympanic membrane								
	Normal				Congestion				Total
	GI Number	%	GII Number	%	GI Number	%	GII Number	%	
1st	00	00	00	00	58	100	51	100	109
4th	35	60,35	30	58,82	23	39,65	21	41,18	109
8th	55	94,82	49	96,07	3	5,18	2	3,93	109

Table 1: Aspect of the tympanic membrane 1<sup>st</sup> day, 4<sup>th</sup> and 8<sup>th</sup> days

of doctors' visits, and the most frequent reason children receive antibiotics or undergo surgery; The high incidence of and high rate of spontaneous recovery from AOM suggest that it is a natural phenomenon, inevitable (like a common cold), and part of the gradual maturation of the child's anatomy and immune system; However, untreated AOM can lead occasionally to suppurative complications, such as acute mastoiditis<sup>9</sup>.

The treatment of AOM is still controversial; Many children are given antibiotics, although systematic reviews suggest that there is only marginal benefit for most children; An estimated 8 to 17 children need to be treated for 1 child to benefit from earlier resolution of symptoms; The effects of prescription of antibiotics are important, because prescription could increase antibiotic resistance<sup>6</sup> increase revisit rates, and increase the likelihood of seeking medical care for future illnesses<sup>9</sup>.

#### a) Sex

We noted a male predominance (65 M/44 F) for 59.63%, a trend usually found in studies of Otologic diseases in Sub-Saharan Africa<sup>10-13</sup>.

#### b) Age

The most affected age group in our study was that of 0 to 3 years with an average age of 2.95 years, this frequency is consistent with that obtained in several works in tropical and in the countries of the Northern Hemisphere<sup>12-17</sup>.

#### c) The control of pain and the appearance of the tympanic membrane

We did not observe statistically significant difference between groups I (treated with antibiotics) and II (patients without antibiotics), confirming:

- The non-systematic use of the antibiotic in the treatment of the congestive acute otitis media of children
- And the imminent place of the analgesic locally and orally in the control of pain for this phase of the acute otitis media.

It is therefore confirmed as a therapeutic strategy that will necessarily influence the attitudes of practitioners prescribing for patients with acute otitis media at the stage of congestion in our health district.

The treatment of acute otitis media (AOM) has three main aims: to relieve pain, to control fever and in case of suppurative AOM, to overcome the bacterial infection; The two former aims are best

managed with salicylates or paracetamol; The local instillation of drops of an anaesthetic-antiseptic solution in the external canal is a useful adjuvant in painful congestive viral otitis; Antibiotherapy is only indicated in suppurative AOM<sup>18</sup>. Since ear pain is often intolerable in very young children with acute otitis media (AOM), a safe pain reduction is indispensable both from the medical as well as from the ethical point of view<sup>6</sup>.

As previously mentioned by introducing this work, the therapy of acute otitis media is the subject of controversies, and our validated therapeutic choices in this study, is found in many works on the thorny problem of antibiotic used in all direction all-out in the treatment of acute otitis media, especially in its phase congestive<sup>19-23</sup>.

It is important to distinguish AOM from OME (otitis media with effusion), which are separate entities with unique management considerations how should one diagnose AOM? To properly diagnose AOM, there must be fluid behind the tympanic membrane (a middle ear effusion) and specific signs and symptoms of middle ear inflammation indicating that this fluid is pus<sup>24</sup>.

If AOM is diagnosed, antimicrobial treatment indicated? Understanding the etiology of acute middle ear effusion and inflammation is the key to answering this question. Viruses play an important role in the pathogenesis of AOM and may be a direct cause of spontaneously resolving AOM, because they have been found in middle ear fluid in the absence of bacteria<sup>24</sup>.

However, studies using tympanocentesis show bacteria are present most of the time; The strains of bacteria have changed over time. Several meta-analyses have examined the role of antimicrobials in the treatment of AOM; as one might predict for what is primarily a bacterial infection, the cumulative evidence demonstrates more rapid resolution of symptoms with the use of antimicrobials. However, the treatment effect for antimicrobials is small approximately 15 children have to be treated for one child to have resolution of symptoms (clinical cure) at 48 h. Not all children with AOM should receive immediate treatment with antimicrobials, and a watchful waiting approach with analgesia can be used in many cases<sup>24</sup>.

When is it appropriate to adopt a watchful waiting approach? If the child is older than six months of age with mild signs and symptoms, observation without the use of antimicrobials for 48 h to 72 h may be an

option if follow-up can be assured. Six months was chosen as the lower age limit because there are limited data on this approach in younger children and severe illness is more difficult to recognize; If the watchful waiting approach is used, it is vital to provide appropriate advice about analgesics, with acetaminophen or ibuprofen being the usual choices. It is recommended to either have the family return if the child does not improve or to provide a prescription for antimicrobials that can be filled at the parents' discretion (deferred prescription)<sup>24</sup>.

Studies have shown that although symptom resolution may take slightly longer with a watchful waiting approach, parents are generally satisfied with this option, and only approximately one-third of those children eventually receive antimicrobials; The watchful waiting option is not appropriate for children who have severe symptoms (appear toxic, have severe otalgia and/or high fever [greater than 39°C, orally]<sup>24</sup>.

Referring to a certain literary treating the subject, this study also emphasizes the analgesic in the therapeutic arsenal of uncomplicated acute otitis media and in the absence of particular medical history<sup>21-26</sup>, although some authors prefer to prescribe antibiotics routinely for a slice of the population aged less<sup>22,27,28</sup> and others who opt for the observation of a time (72 hours on average) to assess the severity of symptoms before antibiotics<sup>18-22</sup>.

It is important for us to point out as mentioned in

some studies, the place of the guideline in the care system, to better treat common diseases including those of the ear<sup>1,18-23</sup>.

This study should certainly be the first fruits of reflections for a national guideline on what to do about taking efficient and rational charging acute otitis media at all levels of the health pyramid of the country.

Such a guideline will prevent situations not favorable to the health of the population related to poorly specified and badly conducted antibiotic therapy as the occurrence of complications, germs resistance problems, the unbearable cost of treatment for patients.

Effective action in the field of continuing medical education will allow efficient distribution of the guideline within the health personnel, often confronted with ear nose throat health issues especially concerning the ear.

Conclusion:

The congestive acute otitis media is a common pathology of child under 03 years in our unit.

The pain control is based on the rational use of analgesic and local and orally. This phase of otitis as confirmed your study does not necessarily require the use of the antibiotic, which will consistently influence the classical therapeutic approach of practitioners to learn "the irrational prescription of antibiotic" with its multiple risks.

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