



Characteristics of Acute Otitis Media Patients at The Citra Medan Perjuangan Clinic in 2020

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Abstract

Otitis media is inflammation of part or all of the middle ear mucosa, Eustachian tube, mastoid antrum, and mastoid cells. Otitis media is less common in adults than in children and is more common in men. The clinical symptoms of AOM depend on the stage of the disease and the age of the patient. The purpose of this study was to determine the characteristics of patients with acute otitis media in the field of battle image clinic in 2020 based on gender, age, and clinical symptoms. This research was conducted by collecting data from medical records at the citra medan perjuangan clinic in 2020. Then the data was processed using a computer, and the results were analyzed descriptively by univariate analysis. The number of samples that have been collected is 72 people. The highest distribution was male sex at 61.1%, age 1-5 years at 61.1%, and fever at 58.3%. Further research is needed to determine the risk factors for AOM that can be used as prevention.

Keywords: Characteristics, acute otitis media, citra medan perjuangan clinic

Background

Otitis media is inflammation of the middle ear mucosa, Eustachian tube, mastoid antrum, and mastoid cells. The middle ear is usually sterile, although microbes are present in the nasopharynx and pharynx. Acute otitis media (AOM) occurs because the body's defense factors are disrupted. Eustachian tube obstruction is a major causative factor for otitis media as it occurs in upper respiratory tract infections. Otitis media is less common in adults than in children. Approximately 80% of all children will experience a case of otitis media during their lifetime, and it is more common in men than women (Danisyar and Ashurt, 2020).

Acute otitis media (AOM) is an infection of the middle ear mucosa caused by a viral infection of the upper respiratory tract, which causes Eustachian tube dysfunction. It interferes with the regulation of pressure in the middle ear. This results in the development of microorganisms in the middle ear. The interaction of viruses and bacteria has an important role in the occurrence of acute otitis media, which in advanced cases requires therapy. (Bowatte *et al.*, 2015).

The main germs that cause AOM are pyogenic bacteria, such as hemolytic *Streptococcus*, *Staphylococcus aureus*, *Pneumococci*. In addition, *Hemophilus influenza*, *Escherichia coli*, *Streptococcus anhemolytics*, *Proteus vulgaris*, and *Pseudomonas aeruginosa* are also occasionally found. *Hemophilus influenza* is often found in children under five years of age. (Djaafar *et al.*, 2011).

The clinical symptoms of AOM depend on the stage of the disease and the age of the patient. In children, the main complaint is a pain in the ear, high body temperature. Usually, there is a history of previous cough and cold. In addition to pain in older children or adults, there is also hearing loss in the form of a feeling of fullness in the ear or a sense of lack of hearing. In infants and young children, the typical symptoms of AOM are high body temperature up to 39.5 °C (at the suppuration stage), the child is restless and has difficulty sleeping, the child suddenly screams while sleeping, diarrhea, convulsions, and sometimes the child holds the ear that hurts. The secretions flow into the ear canal when the ear membrane

ruptures, the body temperature drops, and the child is calmer (Djaafar *et al.*, 2011).

Appropriate otoscopic examination and evaluation are highly recommended for a definite diagnosis of AOM. Representative otoscopic findings of AOM are as follows: redness (erythema, hyperemia), bulging, and otorrhea. However, these findings are not always found. Unclear light reflex on the tympanic membrane, thickening of the tympanic membrane, bullous appearance of the tympanic membrane, cloudy (dull or opaque) tympanic membrane, and tympanic membrane perforation are findings that support acute otitis media (Hayashi *et al.*, 2020).

Acute otitis media (AOM) is one of the most common infections in children about 60% of children have had at least one episode by age four. It is also one of the most frequent reasons for prescribing antibiotics in children under three years of age, accounting for 14% of all antibiotic prescriptions in the UK. When bacterial and/or viral pathogens can cause AOM, it is usually considered a bacterial complication of the viral infection of the upper respiratory tract. Reasons for prescribing antibiotics include symptom control and prevention of rare but severe complications, including mastoiditis and meningitis. However, studies show that up to 80% of cases resolve spontaneously without antibiotics, and antibiotics are necessary for complicated cases (Suzuki *et al.*, 2020).

Complications resulting from AOM, although rare, are usually associated with high morbidity. Before the antibiotic era, the incidence was up to 6%, most of which were fatal. After the discovery of antibiotics and pneumococcal vaccines, the incidence decreased to below 1% (Ren *et al.*, 2018).

Indonesia is among the four countries with the highest prevalence of ear disorders (4.6%). The other three countries are Sri Lanka (8.8%), Myanmar (8.4%), and India (6.3%). However, not the highest, the prevalence of 4.6% is a high enough number to cause social problems in the community, such as communication (Anggraini *et al.*, 2014).

Otitis media is the most common disease in children. Although AOM can heal

spontaneously if not getting adequate management, AOM can lead to severe complications. Therefore, the authors are interested in knowing the characteristics of patients with acute otitis media at the Citra Medan Perjuangan Clinic in 2020.

Materials and Method

In this study, a descriptive research method with a retrospective cross-sectional design was used in patients with acute otitis media (OMA) at the Citra Medan Perjuangan Clinic. The data taken is secondary data, namely data that already exists in medical records. This study aims to determine the number of each patient's characteristics in the following variables: total number of patients, age, gender, and clinical symptoms. The inclusion criteria of this study were all patients at the Citra Medan Perjuangan Clinic who had been diagnosed with AOM and recorded in the medical record from January to December 2020. In the medical record, there were variables to be studied. The exclusion criteria of this study were OMA patients at the Citra Medan Perjuangan Clinic with medical records that did not have data on the variables to be studied. Data collection was carried out from June to August 2021.

The sampling technique in this study used a total sampling technique. So, the sample from this study was taken from the target population, namely all OMA patients at the Citra Medan Perjuangan Clinic from January to December 2020. The secondary data obtained will be processed by computer, and then the results will be analyzed descriptively or by univariate analysis. The data will be presented in the form of a narrative and proportion distribution table.

Results

Based on the results of data collection carried out on all OMA patients who were treated at the Citra Medan Perjuangan Clinic in 2020, 72 people were taken from medical record data.

Based on the table above, according to gender, there are more male patients than females, namely male sex as many as 44

people (61.1%), and female sex as many as 28 people (38.9%).

For distribution based on age, it was found at the age of 1 -5 years as many as 44 people (61.1%), 6-10 years as many as 13 people (18.1%), 11-15 years as many as six people (8.3%), 16 -20 years as many as six people (8.3 %), 21 -25 years as many as two people (2.8%), 26-30 years as many as one person (1.4%).

Table 1. Table of distribution of gender, age, and clinical symptoms in AOM patients at the Citra clinic for the period January – December 2020

Variable	N
Gender	
Male	44 people (61.1%)
Female	28 people (38.9%)
Age	
1 - 5 years	44 people (61.1 %)
6 – 10 years	13 people (18.1 %)
11 – 15 years	6 people (8.3 %)
16 – 20 years	6 people (8.3 %)
21 – 25 years	2 people (2.8 %)
26 – 30 years	1 people (1.4 %)
Clinical Symptoms	
Fever	42 people (58.3 %)
Ear pain	21 people (29.2 %)
Watery ears	11 people (15.3 %)
Cough and cold	12 people (16.6 %)
Ears feel full	9 people (12.5 %)
Nervous	7 people (9.7 %)
Reduced hearing	2 people (2.8 %)

For distribution based on symptoms, fever was the most significant percentage, namely 42 people (58.3%), ear pain as many as 21 people (29.2%), cough and cold 12 people (16.6%), watery ears as many as 11 people (15.3%), the ear feels full as many as nine people (12.5%), nervous as many as seven people (9.7%), hearing loss as much as two people (2.8%).

Discussion

From the description of the study results above, it was found that there were more males than females following the research of Lestari *et al* (2016), which found that 58.7% were male patients. Danishar stated that otitis media is a global problem and is slightly more common in men than women. The specific number of cases per

year is difficult to determine due to under-reporting and divergent incidents in many different geographic areas (Danisyar and Ashurt, 2020; Lestari *et al.*, 2016).

Based on age, the most found at the age of 1-5 years as many as 44 people (61.1%) and the least found in the age group 26-30 years, namely only one person (1.4%). The results of this study follow the results of Mahardika *et al* (2019), which got the most results at the age of <2 years, namely 38.9%. Age is one of the risk factors that are quite related to the occurrence of AOM. Cases of AOM generally occur in children compared to other ages. This condition occurs due to anatomical factors, wherein the developmental phase of the middle ear at the age of children, the Eustachian tube does have a more horizontal position with minimal drainage compared to adults (Mahardika *et al.*, 2019; Adam *et al.*, 1997).

Based on clinical symptoms, the most found were patients who came with a fever of 58.3%. This is related to Djafar's theory which says that in infants and young children, the typical symptoms of AOM are high body temperature, restless children, and difficulty sleeping (Djaafar *et al.*, 2011).

Conclusion

From the research carried out on the characteristics of AOM patients in the field of battle image clinic, from 72 people aged 1-5 years, the most significant percentage is 61.1%. Based on gender, it was found that men were the most cases, which was 61.1%. In this study, fever was the most prominent symptom of 58.3%.

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