

ORIGINAL ARTICLE

Profile of Acute Pharyngitis at Dr. Soetomo General Hospital Pediatric Outpatients Clinic in 2013

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ABSTRACT

Introduction: Acute Pharyngitis remains a common health problem in the world, especially in developing countries and mostly infects children. Around 6,2 to 9,7 million children worldwide went to clinics and emergency department with pharyngitis. This study aims to find the characteristic of acute pharyngitis in children at Dr. Soetomo Hospital Surabaya.

Methods: This study was a cross sectional, using medical records of acute pharyngitis patients in pediatric outpatient clinic. Data collected based on age, sex, chief complaint, additional complaints and clinical signs.

Results: Total samples were 92 patients with sex proportion of 48 males (52,2%) and 44 females (47,8%). Based on age, mostly at 0 – 3 years old (68,4%). The most common chief complaints were fever, followed by cough and sore throat for 55,4%, 28,2% and 16,4% respectively. Based on additional complaint, 56,5% still has good appetite. Based on clinical signs, hyperemic pharyngeal was 91,3% and lymph nodes enlargement was 8,7%.

Conclusion: Acute pharyngitis mostly infected toddler characterized with fever, and hyperemic pharyngeal as a clinical sign.

Introduction

Infectious diseases are still a major problem in Indonesia, especially Acute Respiratory Infections (ARI). There are several prevalences of ARI types that commonly occur in the human airways causing respiratory system inflammation such as pharyngitis, rhinitis, laryngitis, bronchitis, and sinusitis.¹

Pharyngitis is a common health problem in the world, especially in developing countries. Pharyngitis is an inflammation of the pharyngeal wall which can be caused by viruses, bacteria, allergies, trauma, toxins and others.² The patients show different characteristics in every country due to geographic differences, types, and allergen potential.³ There are many risk factors, such as causative agents like viruses and bacteria, host factors (child age, gender, nutritional status, history of exclusive breastfeeding, history of low birth weight, immunization status, etc.) and environmental conditions (air pollution

and ventilation). Age determines the severity and the spread of respiratory tract infections. The incidence increases with age, reaches its peak at the age of 4-7 years, and continue into adulthood. The most common etiology of pharyngitis is Streptococci infection at the age of 5-18 years and rarely occurs under the age of 3 years, comparable between male and female.⁴ In the United States, about 15-30% occur in school-age children, especially at the age of 4-7 years, about 10% occurs in adults, and rarely occurs in children before 3 years old.⁵ In Indonesia, pharyngitis can affect any ages and the morbidity is still high, especially in children.⁶ In addition, nutritional status plays a role in the occurrence of a disease that is often associated with malnutrition and stunting in children. Poor nutritional status decreases the immune system, which means the ability to combat the infection is low.⁷ Furthermore, toddlers without history of exclusive breastfeeding has an increased risk of acute



pharyngitis compared to toddlers who have a history of exclusive breastfeeding.⁸ There is a relationship between the accuracy of the immunization schedule and the incidence of acute pharyngitis, since immunization can produce an immune response to an illness.⁹ Children with low birth weight have a higher risk of developing acute pharyngitis because of their poor immune system.¹⁰ The environment also affects the occurrence of disease, since pollutants can irritate the airway mucosa.⁷

The symptoms depend on the microorganism. In viral pharyngitis, pharynx and tonsils may become hyperemic. Influenza virus, Cocksachie virus and Cytomegalovirus do not produce exudates. Epstein Barr Virus (EBV) causes pharyngitis with exudates production in pharynx. Moreover lymph nodes enlargement can be found, especially in the retroservical and hepatosplenomegaly.² In bacterial pharyngitis, the symptoms are pharyngeal and tonsillar erythema, pharyngeal and tonsillar exudates, petechiae on palatine, uvula edema and anterior cervical lymphadenopathy. However, these symptoms are not found in all patients, as the patients may come with mild or no exudate.¹¹ Meanwhile, the symptoms of diphtheria pharyngitis are asymmetrical membranes, easy to bleed, and gray membranes in the pharynx. The membrane can extend from the anterior border of the tonsil to the mole palate and / or to the uvula.⁴

From the data above, this study aims to identify the characteristics of pediatric patients with acute pharyngitis. By knowing the characteristics, the clinicians can use it as an initial step to prevent and treat the patients.

Methods

This study was a descriptive study with cross sectional design. The sample were collected from medical record of pharyngitis patients at Dr. Soetomo General Hospital Pediatric Outpatient Clinic during 2013. The variables in this study were gender, age, chief complaint, additional complaints and clinical signs.

The sampling technique in this study was total sampling. The samples of this study were all patients with acute pharyngitis with inclusion criteria, all patients with complete medical records who came to pediatric outpatient clinic. This study has been approved by the Health Research Ethics Committee of Dr. Soetomo General Hospital Surabaya with number 145 / Panke. KKE / II / 2015. The collected data was processed, grouped based on the variables, then presented in the form of frequency distribution tables. Data were analyzed descriptively.

Results

The total sample that met the inclusion criteria was 92 patients. This study showed that acute pharyngitis in children were more common in male than female for 48 males (52.2%) and 44 females (47.8%) respectively.

Table 1. Distribution of Frequency of Acute Pharyngitis Patients Based on Gender, Age, Chief Complaints, Additional Complaints and Clinical Signs

	N	%
Gender		
Male	48	52,2
Female	44	47,8
Total	92	100
Age Groups		
0-3 years old	63	68,4
3-6 years old	15	16,3
6-9 years old	7	7,6
9-12 years old	6	6,7
12-15 years old	1	1
15-18 years old	0	0
Total	92	100
Chief Complaints		
Fever	51	55,4
Cough	26	28,2
Swallowing discomfort	15	16,4
Total	92	100
Additional Complaints		
Normal appetite	52	56,5
Decreased appetite	40	43,5
Total	92	100
Clinical Signs		
Pharyngeal hyperemia	84	91,3
Lymph nodes enlargement	8	8,7
Total	92	100

Source: Dr. Soetomo General Hospital Surabaya medical records, 2013

Based on table 1, the samples then classified into 6 categories based on the age. The highest prevalence was at the age of 0-3 years, that was 63 children (68.4%), followed by the age of 3-6 years with the total of 15 children (16.3%), age of 6-9 years with the total of 7 children (7.6%), age of 9-12 year with the total of 6 children (6.7%), age of 12-15 with only 1 patient (1%), and no patients from the group age of 15-18 years.

This study showed that the most common chief complaint was fever. Fever was found in 51 children (55.4%), then followed by cough in 26 children (28.2%), and swallowing discomfort in 15 children (16, 4%). Furthermore, children with acute pharyngitis who had normal appetite were more common than decreased appetite for 52 children (56.5%) and 40 children (43.5%) respectively. This study also showed that the most common clinical signs were pharyngeal hyperemia, that was found in 84 children (91.3%) and lymph nodes enlargement in 8 children (8.7%).

Discussion

From the results, we know that acute pharyngitis was more common in male than female. This was similar with the study conducted in Dr. Mohammad Hosein General Hospital Palembang showed more male (53.7%) than female (46.3%) with acute pharyngitis.¹² However,

these results were contrary to the study conducted in Padang, where acute pharyngitis mostly occurred in female (56%) than male (44%).¹³ This condition was caused by there was no dominant gender for acute pharyngitis, so that both male and female had the same chance to get acute pharyngitis.¹⁴

Acute pharyngitis mostly occurred at the age of 0-3 years, and rarely occurred at the age of 12-15 years. Based on the age group, the etiology was viral infection with cough as one of the complaint, where it was not found in bacterial infection.¹⁵ This study showed that acute pharyngitis mostly occurred in younger children, which was different from the previous studies. This condition was affected by individual immunity level, especially to combat viral and bacterial infection.¹⁶ This study was similar with the theory that age had a considerable influence on the occurrence of acute respiratory infection. Acute pharyngitis in toddlers are often caused by viruses with the highest incidence at the age of 2-3 years. Infants and toddlers show worse clinical manifestations, because their immune system has not well formed yet. In this case, the immunity system is poor and the airway lumen is still narrow.¹⁷ Acute pharyngitis with mild symptoms such as flu and cough is often ignored which can lead the disease spread to the lower respiratory tract. This condition can cause death if it is not immediately treated.¹⁸ here were different studies showed the highest prevalence based on age group, i.e. aged 3-6 years¹³ and at the age of 5-9 years.¹⁹ Epidemiologically, acute pharyngitis could occur at any ages, even though it mostly occurred at the age of 5-15 years and rarely occurred at the age of <3 years.²⁰ In the United States, on average 5-year-old children were infected with GABHS pharyngitis (Group A Beta Hemolytic Streptococcus).²¹

The most common chief complaint was fever, while swallowing discomfort was the least chief complaint. A study conducted in Dr. Mohammad Hosein General Hospital Palembang showed that the chief complaints were slightly different, namely the sore throat in 54 children (100%) and fever or history of fever in 40 children (74.1%). Cough was found in 13 children (24.1%) while 41 children (75.9%) were without cough.¹²

In this study, more than 52 children (51%) had normal appetite, while 40 children (43.5%) had decreased appetite. In general, children with viral acute pharyngitis complained mild swallowing discomfort and normal appetite. In addition, viral acute pharyngitis was suspected based on the history of coughing, which was not found in bacterial infection. The incidence of acute pharyngitis was affected by factors such as gender, age, nutritional status, complaints and season. This study was different from the previous studied because of different external factors, such as environments which created different sociodemographic condition.¹² In addition, the previous study showed that children who lived in well-ventilated homes has lower incidence of acute

pharyngitis than those who lived in poor ventilated homes. Poor ventilation can lower the oxygen and increase humidity, which can facilitate the pathogenic bacteria and viruses to grow. Besides that, cold temperatures and excessive rainfall will make the house more humid.⁷ Acute pharyngitis also increases during winter. This is because the inhalation of cold air causes a pathophysiological response which increase the upper respiratory tract infection. In addition, cold stress can decrease in the immune system.²² The most common clinical signs was pharyngeal hyperemia with a total of 84 children (91.3%), while lymph nodes enlargement was found in 8 children (8.7%). This was similar with a study conducted in Dr. Mohammad Hosein General Hospital Palembang, that pharyngeal hyperemia was found in all children (100%) and palatal petechiae was found in 38 children (70.4%). Tonsillar enlargement was found in 49 children (90.1%), tonsillar exudate was found in 41 patients (75.9%), and pharyngeal exudate was found in 39 patients (72.2%). From head and neck examination, lymph nodes enlargement in neck was found in 31 patients (57.4%).¹² Pharyngitis is an inflammation of the pharyngeal wall, indicated with clinical examination of pharyngeal hyperemia. Thus, pharyngeal hyperemia can be used to confirm the diagnosis of acute pharyngitis.¹⁵

Conclusion

Acute pharyngitis at Dr. Soetomo General Hospital Pediatric Outpatients Clinic in 2013 tend to be found in toddler age in which characterized with fever, normal appetite, and pharyngeal hyperemia.

Conflict of Interest

The author stated there is no conflict of interest.

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