

Fungal Pneumonia Often Occurs in People with Chronic Health Problems or Weakened Immune Systems

Umurov Bobirjon Fayzillayevich
Assistant at Bukhara State Medical Institute

Abstract: to analyze the pregravid and gravid periods in women who gave birth to children with congenital pneumonia, to consider clinical, laboratory and microbiological characteristics, as well as features of the course of this disease in full-term and premature newborns.

Keywords: congenital pneumonia, newborns, premature babies.

Background: There is no set time for how long you'll be contagious once you have pneumonia. The time you may spread pneumonia to others is dependent on the type of pneumonia and what caused you to have it. Generally, if you have bacterial pneumonia, you are contagious for around 48 hours after starting antibiotics and your fever has gone away. If it is viral pneumonia, as symptoms start to go away (especially fever) so does the contagious period. Pneumonia caused by fungi are not contagious. Fungal pneumonia is most common in people with chronic health problems or weakened immune systems, and in people who are exposed to large doses of certain fungi from contaminated soil or bird droppings.

Pneumocystis pneumonia is a serious fungal infection caused by *Pneumocystis jirovecii*. It occurs in people who have weak immune systems due to HIV/AIDS or the long-term use of medicines that suppress their immune systems, such as those used to treat cancer or manage organ transplants.

The following are three fungi that occur in the soil in some parts of the United States and can cause some people to get pneumonia.

Pneumonia is a leading cause of morbidity and mortality in children under 5 years of age worldwide, particularly in low- and middle-income countries. While previous studies have compared the clinical features and outcomes of pneumonia in children of different age groups, there is a lack of studies specifically comparing preterm and full-term infants <1 year of age with pneumonia. Given the high burden of pneumonia in this age group, understanding the differences in clinical presentation and severity between preterm and full-term infants may help guide clinical management and improve patient outcomes. The present study aims to fill this gap in the literature by comparing the clinical features and outcomes of pneumonia in preterm and full-term infants <1 year of age. Pathology of the respiratory system is one of the main causes of high morbidity and mortality in newborns. According to WHO, intrauterine infection ranks first among infections that cause child mortality [1]. Neonatal infections in premature infants are of particular medical and social importance [2]. Pneumonia is a serious problem that threatens the health of newborns. This study aimed to investigate the clinical characteristics of hospitalized term and preterm infants with community-acquired viral pneumonia. Pneumonia is one of the most common infectious diseases in the neonatal period and accounts for 46% of all neonatal diseases [1]. Moreover, the mortality rate of pneumonia is 1.2%, which ranks highest among all

neonatal infectious diseases; thus, pneumonia is a serious problem that threatens the health of newborns [2]. The main pathogens of neonatal pneumonia are bacteria, viruses, and fungi [3]. In recent years, many studies of bacterial pneumonia in neonates have been published [4], but information on viral pneumonia in neonates is limited. Many viruses can damage the airway epithelial layer, thus increasing the likelihood of both adherence to the respiratory tract and bacterial translocation, two of the critical first steps in causing infection [5]. Viruses can also lead to dysfunction of the immune system, thereby promoting bacterial infection [6]. We retrospectively analysed all preterm and term neonates with community-acquired viral pneumonia over a 5-year period to study the aetiology and clinical features of these infants.

Purpose: The purpose of this study was to compare the clinical features of pneumonia in premature and full-term children under 1 year of age. Clinical features such as fever intensity, number of days of hospitalization, intensive care unit admission, and saturation levels were analyzed.

Methods: The retrospective study included 60 children under the age of 1 year admitted to the hospital (ARDMMC) with a diagnosis of community-acquired pneumonia in the period from January 1, 2022 to December 31, 2022. The children were divided into two groups: premature (gestational age ≤ 34 weeks) and term (gestational age >34 weeks). Clinical features such as fever intensity, days of hospitalization, intensive care unit admission, and oxygen saturation (SpO_2) were analyzed. Statistical analysis was performed using a t test, with a p value <0.05 considered significant.

Results: The premature group consisted of 30 children, and the full-term group consisted of 30 children. The mean age of the preterm group was 6.1 ± 3.2 months, and the mean age of the full-term group was 7.2 ± 2.9 months ($p=0.134$). The preterm group had higher fever ($39.1 \pm 0.6^\circ\text{C}$) compared to the full-term group ($38.7 \pm 0.5^\circ\text{C}$, $p=0.022$). The preterm group also had a longer hospital stay (8.6 ± 2.4 days) compared to the full-term group (7.4 ± 1.9 days, $p=0.012$). In addition, the preterm group had a higher rate of intensive care unit admission (60%) compared to the term group (30%, $p = 0.031$). The preterm group had a lower oxygen saturation level ($91.5 \pm 1.9\%$) compared to the full-term group ($95.2 \pm 1.2\%$, $p<0.001$).

Conclusion: Our study indicates a more severe course of the disease in premature infants under 1 year of age with pneumonia than in full-term infants. They are more likely to have higher fever intensity, longer hospital stays, higher rates of intensive care unit admissions, and lower oxygen saturation levels. Therefore, they require more careful monitoring and treatment to prevent complications and improve outcomes. Clinicians should be aware of these differences in clinical presentation and consider them when treating pneumonia in children less than 1 year of age. Women who gave birth to children with congenital pneumonia have a burdened obstetric history in the form of repeated threats of termination of pregnancy, infectious diseases, endocrine pathology, and gestosis . Pathological conditions are detected more often in women whose pregnancy ended prematurely. Congenital pneumonia is more severe in premature infants. Due to the severity of their condition at birth and immaturity, they are more likely than full-term newborns to require resuscitation measures.

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