

Diagnosis and Treatment of Children with Mycoplasma Pneumonia

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Abstract: Objective: To analyze the clinical effect and treatment of children with mycoplasma pneumonia, and summarize the experience of diagnosis and treatment. **Methods:** 200 children with mycoplasma pneumonia treated in our hospital are selected as the research objects from January 2017 to December 2018, and are divided into two groups according to the different treatment methods, namely, conventional group (n=100 cases) treated with erythromycin, and experimental group (n=100 cases) treated with azithromycin. The effective rate of treatment, the relief time of symptoms and adverse reactions are compared between the two groups. **Results:** The effective rate of treatment in the experimental group is higher than that in the conventional group, the relief time of symptoms in the experimental group is shorter than that in the conventional group, and the incidence of adverse reactions in the experimental group is lower than that in the conventional group. It can be seen that the difference is significant. **Conclusion:** It is significant to use azithromycin in children with mycoplasma pneumonia. After the use of azithromycin, the children recover faster, and have fewer adverse reactions, which has higher safety.

Mycoplasma pneumonia is a common clinical disease, which is mainly caused by respiratory tract infection in children, interstitial pathological changes, or bronchopneumonia. The disease mostly occurs in children aged 4 to 14 years old. It is infectious, and can be transmitted by droplets or by direct contact. And the incubation period is also infectious. The common symptoms of mycoplasma pneumonia in children are cough, fever and wheezing. Children with severe conditions may have pleural effusion, pneumothorax, necrotizing pneumonia, atelectasis and other symptoms, resulting in myocardial damage and autoimmune hemolysis, which seriously threatens the life, health and growth of children ^[1]. Therefore, children with mycoplasma pneumonia need to be diagnosed promptly and be received effective treatment in a timely manner. The choice of treatment plan needs to consider the treatment effect and side effects of the child. In this paper, children with mycoplasma pneumonia admitted to our hospital are treated with azithromycin, and compared with the effect of erythromycin treatment, providing reference for the clinical treatment of mycoplasma pneumonia in children.

1. Materials and Methods

1.1 General Information.

200 children with mycoplasma pneumonia treated in our hospital are selected as the research objects from January 2017 to December 2018, and are divided into two groups according to the different treatment methods, namely, conventional group (n=100 cases) treated with erythromycin, and experimental group (n=100 cases) treated with azithromycin. Inclusion criteria can be detailed that if the children are diagnosed as mycoplasma pneumonia, their family members should sign an informed letter. Patient with no liver and kidney dysfunction, no asthma, no drug allergy, no severe pneumonia can be accepted. In the conventional group, 58 cases are male and 42 cases are female. The minimum age is 4 years and the maximum age is 10 years. The average age is (5.6 ± 1.3) years. There are 57 males and 43 females in the experimental group. The minimum age is 3 years and the maximum age is 11 years, with an average age of (5.6 ± 1.8) years. There is no significant difference in the basic data between the two groups ($P < 0.05$).

1.2 Methods.

1.2.1 Diagnostic method

Two groups of children with mycoplasma pneumonia are examined by chest X-ray after admission, so that the condition of the children can be understood in detail and the condition of the children can be diagnosed. At the same time, with the combination of serological diagnosis, the test is carried out by enzyme-linked immunosorbent assay (ELISA), and the Ig M and Ig G indicators of the children are analyzed to determine the infection status of the child, and to determine whether the child is in the acute phase or the recovery phase, and to enhance the diagnostic accuracy of mycoplasma pneumonia in children.

1.2.2 Treatment method

In the conventional group, erythromycin (Chinese medicine standard: H23023295) is used for the treatment. The body weight of the child should be determined before treatment, and the dose is 10-15 mg/kg per time according to the weight of the child. Children with milder disease are treated with oral erythromycin, and children with severe disease are treated with erythromycin by intravenous administration for 10-14 days. And the children in the experimental group are treated with azithromycin (Chinese medicine standard: H20023871), and the weight and condition of the child are also determined before treatment. The dose is 10 mg/kg per day. The children in mild condition are treated with oral azithromycin, and the patients with severe disease are treated with intravenous drip, and the azithromycin is diluted with 0.9% physiological saline solution once a day before use. The treatment course of mild illness is 3 days, and that of severe illness is 5-7 days, and determine whether to carry out the second course of treatment according to the illness after withdrawal.

1.3 Observation Indicators and Evaluation Criteria of Therapeutic Effect.

The study mainly observes the treatment efficiency, time to symptom relief, and incidence of adverse reactions in children. The treatment effect of the children is evaluated, and the symptoms are markedly three dimensions, namely, effective (the symptoms of the children are significantly improved, the chest X-ray examination indicates that most of the lesions of the children are absorbed), improved (the symptoms of the children are improved, and the chest X-ray examination indicates that children's lesions are less absorbed in part of the disease), and ineffective (the symptoms of the children are not improved, or even worsened, chest X-ray examination indicates that the child's lesions have no absorption, or there is a shadow expansion). During the treatment, the child's condition is closely monitored, and the symptoms and adverse reactions of the child are recorded in detail ^[2].

1.4 Statistical Methods.

Statistical analysis of the data in this study is carried out mainly by SPSS software (version 21.0). According to the situation, the counting and measurement are expressed by % and ($\bar{x} \pm s$) respectively, and χ^2 or t test is performed. In comparison, the difference of data is expressed as $P < 0.05$.

2. Results

2.1 Comparison of the Effective Rate of Clinical Treatment and the Incidence of Adverse Reactions Between the Two Groups.

There are 3 cases of children with adverse reactions in the experimental group, and the incidence rate is 3.0%; 16 cases in the conventional group had adverse reactions, and the incidence rate is 13.0%. Compared with these two groups, the effective rate of treatment in the experimental group is significantly higher than that in the conventional group ($\chi^2=7.483$, $P < 0.05$). So there is significant difference between these two groups. Details can be seen in Table 1.

Table 1 Comparison of clinical efficacy of two groups of children [n (%)]

Group	Case	effective	improved	ineffective	efficacy
experimental group	100	59 cases	36 cases	5 cases	95.0%
conventional group	100	27cases	48 cases	25 cases	75.0%
χ^2					8.543
p					<0.05

2.2 Comparison of Remission Time of Symptoms Between the Two Groups.

The fever time, cough time, and disappearance time of the children in the experimental group are significantly shorter than that in the conventional group, and the symptoms are relieved faster. Thus the difference between the two groups is significant ($P<0.05$). Details can be seen in Table 2.

Table 2 Comparison of remission time of symptoms between the two groups [$\bar{x}\pm s$, d]

Group	Case	fever time	cough time	disappearance time
experimental group	100	2.7 \pm 0.9	3.4 \pm 1.0	4.0 \pm 1.4
conventional group	100	5.6 \pm 1.1	6.1 \pm 1.3	7.9 \pm 1.2
t		10.541	10.869	11.201
p		<0.05	<0.05	<0.05

3. Discussion

Mycoplasma pneumonia in children is a common disease in pediatric clinic. It belongs to pulmonary infectious disease and is infectious. The course of the disease is longer and the incidence is higher. It is easy to affect the development, health and life of children with mycoplasma pneumonia. Common symptoms of the disease include fever, sore throat and cough. Children need to receive timely and accurate diagnosis and timely treatment, but the early symptoms of mycoplasma pneumonia in children are similar to common cold, which is prone to misdiagnosis and missed diagnosis, affecting the condition and treatment of children. If the disease can not be treated promptly and effectively, children are prone to pneumonia and atelectasis, which seriously affect children. Chest X-ray examination and laboratory examination can improve the accuracy of diagnosis, and the location and scope of the disease can be understood. Erythromycin belongs to macrolide antibiotics whose antimicrobial spectrum is low. It can inhibit mycoplasma. The inhibition effect is not significant, but it has certain irritation to gastrointestinal tract. Erythromycin has been widely used in recent years, and there is some drug resistance. In the conventional group, erythromycin is used to treat children with mycoplasma pneumonia, but the effect is not significant, and the adverse reactions are low. Azithromycin belongs to the second generation macrolide antibiotics, and its antimicrobial spectrum is more similar to erythromycin, but it has less gastrointestinal irritation, less adverse reactions, significant therapeutic effect, less use and lower drug resistance. The effect of azithromycin treatment in the experimental group is remarkable, with fewer adverse reactions and quicker recovery^[3-4].

According to the results of the study, the treatment efficiency of the children in the experimental group is higher than that in the conventional group, and the incidence of adverse reactions and disappearance of symptoms are shorter than those in the conventional group. The results show that the treatment effect of azithromycin on children with mycoplasma pneumonia is significantly better than that of erythromycin, and the adverse reactions are less and the safety is higher.

In summary, azithromycin is effective in the treatment of children with mycoplasma pneumonia. The recovery of children is faster, the adverse reactions are less, and the safety is higher, and it is worth promoting.

References

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