

Clinical analysis on the therapeutic effect of reduning injection in acute upper respiratory infection.

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Abstract

Objective: This study aims to investigate the clinical value of reduning injection in treating acute upper respiratory infection.

Methods: A total of 72 patients with acute upper respiratory infection in our hospital from March 2015 to February 2017 were selected and divided into the control and observation groups randomly by the odd-even method. The control group (36 cases) was treated by ribavirin injection, whereas the observation group (36 cases) was treated by reduning injection. The effect of clinical therapies, improvement of symptoms, normal proportions of White Blood Cells (WBCs) and neutrophils, and statistical results of occurrence rate of untoward effect between the two groups were compared.

Results: The observation group presents significantly higher therapeutic effect (97.22%) than that in the control group (58.33%) ($P<0.05$). The improvement time of symptoms in the observation group is shortened significantly compared with that in the control group ($P<0.05$). The observation group shows dramatically higher proportions of WBCs and neutrophils than those in the control group ($P<0.05$). The occurrence rate of untoward effect in the observation group is 2.78%, which is reduced dramatically compared with that in the control group (22.22%) ($P<0.05$).

Conclusions: Reasonable reduning injection in clinical treatment of acute upper respiratory infection can guarantee improvement in therapeutic effect, shortening in improvement time of symptoms, growth in proportions of WBCs and neutrophils, and reduction in untoward effect. This approach can optimize prognosis of patients with acute upper respiratory infection.

Keywords: Acute upper respiratory infection, Reduning injection, Clinical analysis.

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Introduction

Acute upper respiratory infection is a disease with relatively high clinical occurrence rates. Its symptoms mainly involve cough, fever, and headache [1]. It may inflict people at any time.

Acute upper respiratory infection not only threatens the physical health of patients but also increases the occurrence rate of serious complications [2,3]. Thus, early clinical therapy to acute upper respiratory infection can reduce pains of patients significantly.

This study aims to explore effective therapies to acute upper respiratory infection and interpret the clinical application value of reduning injection.

Information and Methods

General information

A total of 72 patients with acute upper respiratory infection in our hospital from March 2015 to February 2017 were selected and divided into the control and observation groups randomly by the odd-even method. The control group (36 cases) included 21 males and 15 females who were aged from 15 to 76 with an average age of 34.29 ± 7.52 . The onset time of stroke ranged from 2 h to 47 h with an average onset time of 25.17 ± 5.22 h. In this group, 19, 5, 10, and 2 cases of pharyngeal hyperaemia, herpangina, antiadoncus, and conjunctival injection, respectively, were observed. A total of 5, 22, and 9 cases showed reduced, normal, and increased proportions of White Blood Cells (WBCs), respectively. The observation group (36 cases) covered 23 males and 13 females who were aged from 16 to 79 with an average age of 34.31 ± 7.59 . The onset time of

stroke ranged from 2 h to 49 h with an average onset time of (25.23 ± 5.29 h). In this group, 21, 4, 9, and 2 cases of pharyngeal hyperaemia, herpangina, antiadoncus, and conjunctival injection, respectively, were found. A total of 4, 23, and 9 cases exhibited reduced, normal, and increased proportions of WBCs, respectively. The two groups had no significant difference in general information, such as gender, age, onset time of stroke, type of disease, and proportion of WBC ($P>0.05$).

Selection and exclusion criteria

Selection criteria: The clinical symptoms of all the patients, including dizziness, fever, nasal obstruction, nasal discharge, ophthalmodynia, and cough, met the relevant diagnosis standards of acute upper respiratory infection. Laboratory examination revealed that the patients were suffering from a series of symptoms, such as pharyngeal hyperaemia, conjunctival congestion, herpangina, and antiadoncus. After lung auscultation, no dry and moist rales were observed. Blood routine examination was performed to examine anomalies of WBCs [4].

Exclusion criteria: Patients with serious cerebral insufficiency, immune system disease, severe lung insufficiency, mental disease, and serious cardiac insufficiency were excluded.

Methods

The control group was treated by ribavirin injection, whereas the observation group was treated by reduning injection. Ribavirin injection for the control group was prepared by mixing 0.5 g of drugs and 250 ml of 5% glucose solution [5]. Intravenous drip of ribavirin injection was administered to the patients once a day for five days. Reduning injection for the observation group was prepared by mixing 20 ml of drugs and 250 ml of 0.9% sodium chloride injection. Intravenous drip of reduning injection was given to patients once a day for five days.

Judgment standard of therapeutic effect

Cure: The patients showed normal proportion of total WBCs, significantly relieved series of symptoms of respiratory infection, and no abnormal body temperature and fever symptoms after the treatment. **Improvement:** The patients showed slight anomaly of total WBCs, relieved series of symptoms of respiratory infection, controlled fever, and certain reduction in body temperature after the treatment. **Ineffectiveness:** The patients still had abnormal total WBCs, failed to relieve series of symptoms of respiratory infection, and showed significantly abnormal body temperature and high fever [6].

Statistical analysis

The therapeutic outcomes of all the patients with acute upper respiratory infection were analysed by SPSS20.0. The

enumeration data (e.g., proportions of neutrophils) of the two groups were expressed in % and examined by χ^2 -test. Measurement data (e.g., improvement time of symptoms) were expressed by $\bar{x} \pm s$ and examined by t-test. $P<0.05$ indicates statistically significant difference between the two groups.

Results

Therapeutic effect

The therapeutic effect in the observation group was 97.22%, which was significantly higher than that in the control group (58.33%) ($P<0.05$). The results are shown in Table 1.

Improvement time of symptoms

The observation group took significantly shorter time for the improvement of symptoms than did the control group ($P<0.05$). The results are shown in Table 2.

Proportions of WBCs and neutrophils

The proportions of WBCs and neutrophils in the observation group were significantly higher than those in the control group ($P<0.05$). The results are shown in Table 3.

Untoward effect

The occurrence rate of untoward effect in the observation group was 2.78%, which was sharply reduced compared with that in the control group (22.22%) ($P<0.05$). The results are shown in Table 4.

Table 1. Comparison of therapeutic effect between two groups (cases).

Groups	n	Cure	Improvement	Ineffectiveness	Total (%)	efficiency
Observation group	36	24	11	1	97.22	
Control group	36	6	15	15	58.33	
χ^2					15.7500	
P					<0.05	

Table 2. Comparison of improvement time of symptoms between two groups ($\bar{x} \pm s$, day).

Groups	n	Time for relief from coughing	Time for relief from nasal discharge	Time for relief from fever	Time for relief from pharyngeal congestion
Observation	36	2.87 ± 0.53	2.37 ± 0.43	2.17 ± 0.23	2.79 ± 0.37
Control	36	5.22 ± 1.25	4.83 ± 0.55	4.17 ± 0.29	4.36 ± 0.30
t		10.3850	21.1418	32.4205	19.7757

P	<0.05	<0.05	<0.05	<0.05
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Table 3. Comparison of proportions of WBCs and neutrophils between two groups (n (%)).

Groups	n	Proportion of neutrophils			Total WBCs		
		Reduced	Normal	Increased	Reduced	Normal	Increased
Observation	36	1 (2.78)	34 (66.67)	1 (2.78)	1 (2.78)	34 (66.67)	1 (2.78)
Control	36	6 (16.67)	22 (61.11)	8 (22.22)	5 (13.89)	24 (66.67)	7 (19.44)
χ^2		3.9560	11.5714	6.2222	2.9091	8.8670	5.0625
P		<0.05	<0.05	<0.05	>0.05	<0.05	<0.05

Table 4. Comparison of occurrence rate of untoward effect between two groups (cases).

Groups	n	Diarrhea	Skin itch	Vomit	Skin rash	Total occurrence rate (%)
Observation	36	0	0	1	0	2.78
Control	36	2	2	2	2	22.22
χ^2						6.2222
P						<0.05

Discussion

Acute upper respiratory infection is a disease with significantly high morbidity and threatens the physical and psychological health of patients [7]. According to etiological analysis, the incidence of acute upper respiratory infection of patients is highly correlated with virus infection. Acute upper respiratory infection requires close clinical attention and early specific treatment to reduce untoward effects significantly and thus prevent serious interference in patients' lives and activities [8].

Reduning injection achieves outstanding therapeutic effect on acute upper respiratory infection. According to ingredient analysis, reduning injection mainly consists of *Lonicera japonica*, *Artemisia apiacea*, and *Fructus gardenia*. *A. apiacea* presents the effect of dieresis and heat removal to cool blood [9]. *L. japonica* can clear away heat and toxic materials and dispel wind and heat. *F. gardenia* can clear heat, promote dieresis, remove pathogenic heat from the blood and toxic materials from the body, urge intense heat, and relieve restlessness. These components assure the full use of reduning injection and offer strong virus resistance and sterilizing effect, thereby easing headache and fever symptoms [10]. Consequently, the immunity of patients can be strengthened.

In this study, the observation group achieved remarkably higher therapeutic effect (97.22%) than that in the control group (58.33%) (P<0.05). The improvement time of symptoms in the observation group is shortened significantly compared with that in the control group (P<0.05). The observation group shows dramatically higher proportions of WBCs and

neutrophils than those in the control group (P<0.05). The occurrence rate of untoward effect in the observation group is 2.78%, which is reduced dramatically compared with that in the control group (22.22%) (P<0.05). These results demonstrate the high clinical value of reduning injection in treating acute upper respiratory infection.

Conclusion

In summary, reasonable reduning injection in clinical treatment of acute upper respiratory infection can significantly promote improvement in therapeutic effect, shortening in improvement time of symptoms, growth in proportions of WBCs and neutrophils, and reduction in untoward effect. This approach can optimize prognosis of patients with acute upper respiratory infection.

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