A Study on the Curative Effect of Omeprazole in the Treatment of Ulcerative colitis

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Abstract:
Objective: to study the clinical efficacy of Omeprazole in the treatment of ulcerative colitis. Methods: 40 cases of ulcerative colitis were randomly divided into two groups, each with 20 cases. The control group was treated with Mesalazine granules, and the treatment group was treated with above-mentioned medicine and oral Omeprazole enteric-coated capsules at the same time. Results: the treatment effect of ulcerative colitis in the treatment group was significantly superior to that in the control group; the time of colitis symptom disappeared was significantly shorter than that in the control group, and the recurrence number after treatment was significantly less than that in the control group. Conclusion: Omeprazole has very obvious treatment effect in the treatment of ulcerative colitis.

Keywords:
Omeprazole; ulcerative colitis; study on the curative effects; treatment.

Ulcerative colitis (UC) is a chronic non-specific inflammation of large intestine mucosa in an unknown etiology. The main symptoms of it are diarrhea, hematochezia and abdominal pain. It is generally considered that maybe related to genetic, environmental and immunological factors[1]. The main medical treatment methods are to control the symptoms, prevent recurrence, and avoid complications. The medicines are mainly hormone, Mesalamine, immunosuppressant and so on[2]. In recent years, the successful treatments of UC with proton pump inhibitors have reported in foreign countries, but there are not too many domestic studies in this field. In this paper, Omeprazole combined with Mesalazine granules were used in the treatment of minor and moderate UC patients to make observations about the recent curative effect and recurrence rate, and then compare the result with that by using traditional mesalazine granules medicine, so that to explore a new approach to the treatment of UC.

1. Data and Methods.
1.1. Clinical Data
40 patients with UC from 2011 to 2015 that had received and cured in our hospital were selected. The diagnoses and classifications of the illness of them conform to the common view in the 7th National Congress of Digestive System Diseases that hosting by Chinese Medical Association. Among them, there were 18 males and 22 females on the ages of 19~63 years old, with an average of (32±7) years. The medical histories of them ranged from 2 months to 20 years, with an average of (5.8±1.3) years. According to fibercolonscopy, lesions were restricted to 21 cases of rectum, 17 cases of proctosigmoid lesions, 2 cases of total colonic lesion, 26 cases of minor UC patients, 14 cases of moderate UC patients 26 patients, 21 cases of patients that were first occurred, 10 cases of chronic recurrence, and 9 cases of chronic persistent. 40 cases were in active stage.

The main clinical manifestations were abdominal pain, pus...
and blood stool and tenesmus. Some patients had weight loss or fever, but all patients had no liver, kidney, gallbladder and systemic disease upon examination. The patients were randomly divided into 2 groups, 20 cases in the treatment group and 20 cases in the control group. There was no statistically significant difference in gender, age and course of disease between the 2 groups, after statistics processing (P>0.05), so it was comparable. The pharmacies of the treatment group and the control group were be informed and accepted.

1.2. Treatment Methods

The control group: 20 cases of minor and moderate UC patients were given oral mesalazine granules (French Ethypharm Pharmaceutical Co. Ltd.) 1g, 4 times/d. Other anti infective drugs and hormones were discontinued during the treatment period for 4 weeks. The treatment group was treated with above-mentioned medicine and oral Omeprazole Enteric-coated Capsules (AstraZeneca pharmaceutical co. ltd.) at the same time, 20mg, 2 times/d. Other anti infective drugs and hormones were discontinued during the treatment period for 4 weeks[3].

1.3. Therapeutic Evaluation

Cure: the clinical symptoms disappeared completely; the shape, color, frequency and routine examination results of stool returned to normal condition; the results of colonoscopy were completely normal. Effective: the clinical symptoms basically disappeared or improved markedly; the shape, color and frequency of stool basically returned to normal condition. The stool routine examination demonstrated the existence of a small number of white blood cells. The results of colonoscopy showed that the mucous membrane has a mild inflammatory reaction. Ineffective: there was no improvement in clinical symptoms; the shape, color, frequency, routine examination and endoscopic examination of stool had no improvement, or the patient's condition was further aggravated, so change to other methods for treatment.

1.4. Statistical treatment: Using SPSS17.0 statistical software, \( x^2 \) indicates measurement data. The curative effect and symptom disappearance time of 2 groups were compared with two samples t test. The ratio of the rate was tested by \( \chi^2 \). if \( P<0 \),The difference was statistical significance.

2. Conclusions

2.1. Comparison of curative effect between 2 groups: The total effective rate of the treatment group was 85\% (16 / 19), and the total effective rate of the control group was 55\% (11 / 20). The difference was statistically significant by the \( \chi^2 \) test. It showed that the curative effect of the treatment group was better than that of the control group.

Table 1 Comparison of total effective rate between 2 groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Cure</th>
<th>improvement</th>
<th>invalid</th>
<th>Total effective</th>
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<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
<td>%</td>
</tr>
<tr>
<td>Treatment group</td>
<td>13</td>
<td>1</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Control group</td>
<td>5</td>
<td>25</td>
<td>6</td>
<td>30</td>
</tr>
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</table>

2.2. Extinction time of Colitis symptoms: the extinction time of colitis in the treatment group (7.8 + 1.3) d was significantly less than that of the control group (14 + 2.2) d. There were statistically significant differences between groups.

2.3. Comparison of relapse in 2 groups: the recurrence rate of the treatment group was 10\% (2 / 20), which is significantly less than that of the control group (40\% (8 / 20)). There were statistically significant differences between groups.(\( \chi^2=4.800,p<0.05 \))

3. Discussions

UC is one of the major types of inflammatory bowel disease. The cases reported in China have gradually increased in recent years. It was estimated that the case rate was 11.6 / 100 thousand[4]. Its etiology and pathogenesis are still unclear. It is considered to be related to the interaction of many factors such as immunity, environment, infection and heredity. The immune factors play an important role in the pathogenesis of UC. Currently, Mesalazine is acknowledged as an effective drug for the treatment of UC, but there are many adverse reactions. Patients present headache, nausea and vomiting, loss of appetite, upper abdominal discomfort and allergy, which limits the use of Mesalazine. The main mechanism of ranitidine in the treatment of UC is the effective inhibitory effect of ranitidine on the histamine released from the colon mast cells. In addition, it's reported
recently that Omeprazole has a good effect on the treatment of UC\(^6\)\(^,\)\(^7\) at home and abroad. Accordingly, this study used combined mesalazine granules in the treatment of mild and moderate UC, the total effective rate was 85%, the curative effect was satisfactory, and the untoward effects were significantly less than those in the control group. Omeprazole is a new proton pump inhibitor, which has many advantages, such as significant efficacy, low recurrence rate, few adverse reactions and easy to eat. It is widely used in clinic. Omeprazole is an fat-soluble alkalescent drug, which is easily enriched in acidic environment, also known as H\(^+\) - K\(^+\) - ATP enzyme inhibitor or gastric proton pump inhibitors. After oral administration, Omeprazole can specifically distributed in the tubular secretion of gastric parietal cells. In this high acid environment, it is converted to the active form of sulfonthalamide. Omeprazole Irreversibly combined with thiol of H\(^+\) - K\(^+\) - ATP enzyme in Parietal cell secretory membrane through disulfide bond. This can inhibit the activity of the enzyme to block the secretion of gastric acid and increase the pH of gastric acid significantly. In addition, it can also improve gastric mucosal potential, maintain gastric cell stability, protect gastric mucosal barrier, and facilitate the repair and hemostasis of gastric and duodenal lesions\(^8\),\(^9\). The mechanism of omeprazole in the treatment of inflammatory bowel disease is unknown, and it is presumed that it may be related to the chemical structure of omeprazole, which is similar to metronidazole. In recent years, omeprazole has also achieved good results in the treatment of pancreatitis\(^10\). Its important function is to bind to neutrophils directly and inhibit the release of oxygen free radicals. The mechanism of omeprazole in the treatment of UC is probably related to anti secretory, anti-infection, promoting healing, accelerating mucosal repair and antibacterial. The mechanism of treatment for this disease still needs further study, which can further observe its curative effect in clinic.

Reference: