Scientific Research Publishing

Journal of Biosciences and Medicines, 2024, 12, 155-160
https://www.scirp.org/journal/jbm
ISSN Online: 2327-509X
ISSN Print: 2327-5081

Clinical Effect of Ilaprazole Enteric-Coated Tablets in Patients with Peptic Ulcer

Fanghui Chen

Department of Gastroenterology, The Second People's Hospital of Jingzhou, Jingzhou, China
Email: cfh199201@126.com

How to cite this paper: Chen, F.H. (2024) Clinical Effect of Ilaprazole Enteric-Coated Tablets in Patients with Peptic Ulcer. *Journal of Biosciences and Medicines*, **12**, 155-160.
https://doi.org/10.4236/jbm.2024.129015

Received: August 20, 2024
Accepted: September 17, 2024
Published: September 20, 2024

Abstract

Objective: To discuss the actual effect of ilaprazole enteric-coated tablets in the treatment of peptic ulcer patients. **Methods:** 200 peptic ulcer patients who received treatment from January to December 2023 were selected as the study sample, and all patients were randomly and evenly divided into the study group (n = 100) and the control group (n = 100), and the serum inflammatory factors and the disappearance time of symptoms were compared. **Results:** After treatment, the serum inflammatory factors in the observation group were better than those in the control group, and the time of belching and burning sensation in the observation group was shorter than that in the control group, all of which were statistically significant ($P < 0.05$). **Conclusion:** Ilaprazole enteric-coated tablets in the treatment of peptic ulcer have a good effect and can effectively improve the symptoms of patients with clinical signs, with reference significance.

Keywords

Ilaprazole Enteric-Coated Tablets, Peptic Ulcer, Symptoms

1. Introduction

Peptic ulcer is mainly manifested as gastric and duodenal ulcer, which is a common digestive system problem with high prevalence and easy to recur. Gastric ulcer mostly occurs in middle-aged and elderly people, while duodenal ulcer occurs in adolescents and adults [1]. The occurrence of peptic ulcer in patients indicates that pathogenic bacteria or viruses can cause irreparable damage to the stomach and duodenal mucosa, both of which are important protective layers of the human body, as well as the body's self-protection mechanism. *Helicobacter pylori* is the main predisposing factor of peptic ulcer. If the patient is infected by *Helicobacter pylori*, it will cause inflammation in the body, weaken the protective

function of the mucosa, and the repair ability of the mucosa will be weakened accordingly. When the amount of secretion and gastric acid in the stomach increases, it may trigger the formation of ulcers [2]. At present, the commonly used drugs for peptic ulcer are amoxicillin capsules, metronidazole tablets, omeprazole enteric-coated capsules, omeprazole and so on. Ilaprazole is an innovative proton pump inhibitor with a longer half-life, which can significantly inhibit the production of gastric acid, thus achieving the inhibition of *Helicobacter pylori* [3].

2. Data and Methods

2.1. General Information

Two hundred patients with peptic ulcer admitted to the Department of Gastroenterology at The Second People's Hospital of Jingzhou from January to December in 2023 were selected and randomly divided into study group (n = 100) and control group (n = 100) according to odd and even numbers. The ratio of male to female in the control group was 63:37, and the average age was (53.19 ± 7.11) years. The ratio of male to female in the study group was 65:35, and the average age was (53.14 ± 3.42) years old. The inclusion criteria were as follows: 1) The diagnosis of peptic ulcer disease met the diagnostic criteria through examination; 2) The psychological status was good, and there was no related disease affecting the study; 3) The participants did not use any related drugs during the study; 4) Participants and their relatives have explicitly agreed to participate in the study and signed the consent form. Exclusion criteria: 1) Having doubts about the study; 2) Having mental illness; 3) Suffering from cancer, accompanied by serious heart, liver, kidney and other problems; 4) Patients had allergic reactions to the drugs used in the experiment; 5) Lack of integrity of relevant clinical information. The basic information of the comparison patients was similar ($P > 0.05$), so the study could be carried out.

2.2. Method

The control group received omeprazole 20 mg twice daily, amoxicillin 1.0 G twice daily, and clarithromycin 0.5 G twice daily. The course of treatment was 1 week.

The dose and frequency of amoxicillin and clarithromycin in the study group were similar to those in the control group, and the dose of ilaprazole enteric-coated tablets was 0.5 G twice a day. The course of treatment was 1 week.

2.3. Observation Index

1) The results of serum inflammatory factors were counted. 2) Recorded the regression time of belching, burning sensation, acid regurgitation, abdominal pain and other manifestations.

2.4. Statistical Methods

We used SPSS 26.0 software to analyze the data. The count data was presented in the form of [n (%)] and χ^2 test, and the measurement information was presented

in the form of (X ± s) and t-test. P < 0.05 indicates statistical significance.

3. Results

3.1. Comparison of Serum Inflammatory Factors

Before treatment, the serum inflammatory factors of the two groups were similar (P > 0.05); after treatment, the serum inflammatory factors of the observation group were better than those of the control group (P < 0.05). See Table 1.

Table 1. Comparison of serum inflammatory factors (X ± s).

Group	IL-17 (ng/L)		IL-10 (ng/L)		NO (μmol/L)	
	Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Control group (n = 100)	80.26 ± 10.32	58.65 ± 9.03	358.25 ± 33.88	300.18 ± 38.68	51.44 ± 5.87	29.56 ± 4.07
Observation group (n = 100)	78.96 ± 10.63	39.19 ± 8.58	356.69 ± 36.98	256.65 ± 42.47	51.78 ± 5.63	42.68 ± 3.75
t	0.528	7.467	0.221	4.549	0.267	14.262
P	0.601	0.000	0.824	0.000	0.792	0.000

3.2. Disappearance Time of Contrast Performance Symptom

The time of the disappearance of belching and burning sensation in the observation group was shorter than that in the control group (P < 0.05). See Table 2.

Table 2. Disappearance time of contrast symptoms [(s ± X), H].

Group	Time for belching to subside	Time for the burning sensation to subside
Control group (n = 100)	32.52 ± 3.28	36.12 ± 3.96
Observation group (n = 100)	22.31 ± 4.35	27.45 ± 3.98
t	12.221	10.878
P	<0.05	<0.05

4. Discussion

Peptic ulcer is a common digestive tract problem, which can greatly impair the quality of life of patients. Preventing *Helicobacter pylori* infection can reduce the frequency of peptic ulcers. However, due to the widespread use of antibiotics, the resistance of *Helicobacter pylori* is gradually increasing, so its elimination effect is not ideal [4]. With the widespread use of antibiotics, the drug resistance of *Helicobacter pylori* has also increased, and it is difficult to eradicate it effectively and thoroughly. Once *Helicobacter pylori* enters the stomach, it will enter the mucus layer through flagella, then contact the surface of epithelial cells and form adhesions, which will reduce the rate of gastric excretion. At present, the treatment of

this disease is mainly to achieve the goal of treatment by inhibiting gastric acid and eliminating *Helicobacter pylori* in the body. Drugs that inhibit proton pumps can treat peptic ulcers by inhibiting the production of gastric acid [5]. Omeprazole is a common proton pump inhibitor with good chemical stability, which can quickly relieve pain in the treatment of peptic ulcer, shorten the treatment time, and promote the healing of the lesion more effectively, and its tolerance is relatively high. Ilaprazole enteric-coated tablets are an innovative proton pump inhibitor, which has a significant effect on gastric acid inhibition. The main metabolic pathway of this drug is completed in the liver. It is an irreversible proton pump inhibitor. According to its chemical composition, it belongs to a benzimidazole drug [6]. When patients take this drug, it selectively enters the gastric parietal cells, then converts to sulfenamide active metabolites, and reacts with the sulfur group on H + -K + -ATPase, resulting in the covalent binding of disulfide bonds, thus preventing the secretion of gastric acid. The drug has a longer half-life than omeprazole and is more effective in blocking gastric acid secretion.

Relevant studies have shown [7] that IL-17 is a pro-inflammatory factor, which is secreted by CD4 + T cells and can form specific binding with receptors, which makes IL-17 have a high ability to activate inflammatory response, and can promote the development of inflammation, increase hematopoietic function, and increase immune response. It plays a key role in the progression of disease, and it can also play a key role in defensive immunity against bacteria and fungi. The occurrence of peptic ulcer indicates that the stomach has been inflamed and the permeability of gastric mucosa has increased, which may lead to overreaction or misjudgment of the immune system in the stomach. Activate macrophages and lymphocytes to stimulate the body's immune response, so that the inflammatory response continues to expand and amplify, and then cause tissue damage, leading to the formation of disease. IL-10 is considered to be a substance that resists inflammation. Once the body is attacked by viruses or bacteria, the content of IL-10 will increase, further triggering local inflammatory response. IL-10 has the ability to inhibit the production of cytokines such as TNF-α, IL-1β and IL-8, as well as the production of adhesion molecules. In addition, IL-10 is able to "inactivate" monocytes by reducing the expression of MHC surface molecules.

Studies have shown [8] that NO plays a key role in *Helicobacter pylori* infection, and the severity of the disease increases as the concentration of NO in the serum increases. Nitric oxide is a simple and unstable free radical, which can be produced by both human and animal cells. This substance is a regulatory factor of cell function, which can participate in various physiological activities and disease processes of the body. NO is a chemical component produced by vascular endothelial cells, which has high instability. Its biological half-life is about 5 seconds. It belongs to a miniature bioactive component. Even in a healthy state, this component may still appear. Even in a healthy state, this ingredient may still appear. Vascular endothelial cells can be protected by resisting the adhesion and aggregation of platelets and leukocytes, but no matter how much the amount of this substance is, it may lead

to pathological damage of body tissues [9]. When the human body is infected by *Helicobacter pylori*, macrophages, vascular endothelial cells and white blood cells in the body will be affected by inflammation, which will accelerate the production of no synthase, and further catalyze arginine to produce more NO, thus increasing the toxicity of cells. Because of the multiple effects of NO, the performance of human infection with *Helicobacter pylori* will be different at different stages, which is related to the content of NO or the time of NO production in human infection.

Due to the relatively limited sample size of this clinical trial, the main manifestation is that the reference study patients are limited to one unit, and only for a specific region. In this clinical trial, only omeprazole was used in the control group, and no other proton pump inhibitors were used in the control group to further confirm the superiority of its efficacy and safety [10]. This clinical trial has only evaluated the therapeutic effect of peptic ulcer, and whether it has a similar or better therapeutic effect on other acid-related diseases needs to be confirmed by further experiments. Further research direction: This clinical medical research only obtained the information from one center and a single small area, which is not convincing enough at present. The experimental data of other centers can be collected in order to analyze the therapeutic effect and safety more deeply. After the application of ilaprazole enteric-coated tablets in the market and clinical practice, we collected a large number of patient cases and data from various regions to make an in-depth evaluation of its therapeutic effect.

Overall, ilaprazole enteric-coated tablets are effective in the treatment of peptic ulcer patients, reducing inflammation and improving clinical signs, and further studies are needed to verify the efficacy and safety of ilaprazole enteric-coated tablets.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

[1] Wang, W.N. and Zhang, S.L. (2024) Clinical Observation of Bifidobacterium Tetravaccine Tablets Combined with Quadruple Therapy in Patients with *Helicobacter pylori*-Positive Gastric Ulcer. *Heilongjiang Medical Science*, **47**, 102-105.

[2] Li, Y.F., Sun, W.S. and Chen, H.F. (2024) Comparison of Hemostatic Effect and Serum Inflammatory Factors of Ilaprazole and Omeprazole in Patients with Peptic Ulcer Bleeding. *Clinical Medical Engineering*, **31**, 813-814.

[3] Zhong, G.Y. and Kuang, C.Y. (2024) Effect of Rabeprazole Combined with Cimetidine on Gastrointestinal Function in Elderly Patients with Peptic Ulcer. *Primary Medical Forum*, **28**, 37-39, 43.

[4] Li, C.D. (2024) Clinical Effect of Ilaprazole Enteric-Coated Tablets in Patients with Peptic Ulcer. *Proceedings of the Seventh National Conference on Rehabilitation and Clinical Pharmacy* (*I*), Nanjing, 5.

[5] Wang, F., Cui, B.H. and Shi, P.P. (2024) The Effect of Somatostatin Combined with Ilaprazole Enteric-Coated Tablets in the Treatment of Peptic Ulcer. *Chinese Journal of*

Practical Medicine, **51**, 95-98.

[6] Pang, T.Y., Wang, Z., Hu, J.S., Shen, Z.H., Wang, Y.Q., Chen, Y.Q., Qian, X.B., Liang, J.Y., Yi, L.Y., Li, J.L., Han, Z.H., Zhong, G.P., Cheng, G.H. and Hu, H.T. (2024) Study on the Effect of Different Dosage Regimens of Ilaprazole Enteric-Coated Tablets on Gastric Acid Secretion. *Chinese Journal of Clinical Pharmacology*, **40**, 92-96.

[7] Chen, X.Y., Zhao, X. and Zeng, W.W. (2023) Meta-Analysis of the Efficacy and Safety of Ilaprazole Enteric-Coated Tablets in the Treatment of Reflux Esophagitis. *Pharmaceutical Practice and Services*, **41**, 443-448.

[8] Yang, K. and Luo, M. (2023) Effect of Sequential Therapy with Ilaprazole Combined with Bismuth Standard Quadruple Regimen in the Treatment of Hp Infectious Chronic Gastritis. *Clinical Rational Drug Use*, **16**, 68-70.

[9] Kang, W.D., Lee, W.J., Park, Y.M., *et al.* (2024) Impact of *Helicobacter pylori* Eradication on Age-Specific Risk of Incident Dementia in Patients with Peptic Ulcer Disease: A Nationwide Population-Based Cohort Study. *GeroScience*. https://doi.org/10.1007/s11357-024-01284-z

[10] Nikolovski, A., Mickovska, K., Argirov, I., *et al.* (2024) Perforated Giant Peptic Ulcer of the Stomach in a Female Patient with Multiple Sclerosis. *Journal of Surgical Case Reports*, **2024**, rjae466. https://doi.org/10.1093/jscr/rjae466