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ABOUT COVER

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Retrospective Study

Application effect of phloroglucinol injection in elderly patients with spastic abdominal pain in emergency department

Yu-Fei Liu, Jian Chen

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Abstract

BACKGROUND

Although norepinephrine injection is commonly used in emergency situations, it is associated with risks for elderly patients with spasmodic liver pain. This study explores the safety and effectiveness of mebendazole injection, an alternative treatment option, for the emergency management of spasmodic abdominal pain, while minimizing adverse reactions, in elderly patients.

AIM

To explore the development of norepinephrine injection and the adverse reactions of this drug in emergency elderly patients with spasmodic liver pain.

METHODS

The control group consisted of 56 elderly patients visiting our hospital from January 2021 to December 2021. After hospital admission, the control group was intravenously administered tolopin. The experimental group consisted of 56 emergency patients with spasmodic abdominal pain who visited our hospital until June 2022. After hospital admission, the experimental group was intravenously administered toloxazole. The two groups were treated for 3 d. The disappearance of clinical symptoms was observed before and after the treatment, and the difference in adverse reactions between the two groups was compared.

RESULTS

The pain of the wife, fire, diarrhea, drowning, and surrounding time disappeared in the experimental group. No statistical difference was observed between the experimental and control groups in visual pain analog scale (VAS) scores before and after the treatment ($P > 0.05$). The VAS scores of abdominal pain severity after 0.5 h, 1.0 h, and after 6.0 h of treatment were significantly lower for the experimental group than for the control group. After the treatment, the therapeutic effect in the experimental group was higher and statistically significant than that

in the control group ($P < 0.05$). The probability of adverse reactions before the treatment was lower in the experimental group than in the control group.

CONCLUSION

During emergency, mebendazole injection exhibited a good therapeutic value when used for the clinical treatment of elderly patients with spasmodic stomach pain. It accelerated the disappearance of clinical symptoms such as stomach pain, reduced the stomach weight, and improved clinical activity. Reducing and promoting the frequency of high treatment safety with mebendazole injection is worthwhile.

Key Words: M-triophenol injection; Emergency; Spasmodic abdominal pain in the elderly; Abdominal pain disappearance time; Adverse reactions; Therapeutic effect

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Core Tip: Mebendazole injection is a safe and effective treatment option for elderly patients with spasmodic abdominal pain in emergency situations. It can accelerate clinical symptom disappearance, reduce the stomach weight, and improve clinical activity. Mebendazole injection can potentially be applied as a valuable treatment option that is safe for use in this vulnerable population.

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INTRODUCTION

Spasmodic abdominal pain is mainly caused by intestinal spasms, which involves strong contraction of intestinal smooth muscles. It is a common condition in the emergency department and is often characterized by colic pain, which is paroxysmal and persistently worsens[1,2]. These emergency patients may also experience various degrees of gastrointestinal symptoms, such as diarrhea, nausea, and vomiting. These symptoms severely affect their physical and mental health. The elderly people are a special group highly prone to spasms of gastrointestinal smooth muscles because of the deterioration of their body's functions, a decline in their immune system, and the effects of mental stimulation and poor dietary habits[3-10]. In elderly patients with spasmodic abdominal pain, due to their advanced age, additional care is required while selecting drugs for treatment[11-17]. In the present study, 112 elderly patients with spasmodic abdominal pain admitted to our hospital from July 2021 to June 2022 were selected for further investigating the effect of mebendazole injection on the time required for the disappearance of abdominal pain and the adverse effects associated with this drug.

MATERIALS AND METHODS

General information

This study was approved by the moral principal commission of our hospital. In total, 56 emergency geriatric patients with spasmodic abdominal pain admitted between July 2021 and December 2021 were assigned to the control group, while 56 emergency geriatric patients with spasmodic abdominal pain admitted between January 2022 and June 2022 were included in the experimental group. The control group had 26 male and 30 female patients, respectively. The maximum patient age was not more than 88 years, and the minimum patient age was not less than 64 years. The average patient age was (75.44 ± 4.78) years. The maximum and minimum durations of the patients' illness were not more than 31 h and not less than 5 h, respectively, with an average duration of (18.17 ± 4.48) h. The experimental group had 27 male and 29 female patients, respectively. The maximum patient age did not exceed 89 years, and the minimum age was not less than 62 years, with an average patient age was (75.51 ± 4.85) years. The maximum and minimum durations of the patients' illness were not more than 30 h and not less than 7 h, respectively, with an average duration of (18.28 ± 4.45) h. The general data of the two elderly patient groups with spasmodic abdominal pain exhibited no statistically significant differences ($P > 0.05$). The patient inclusion criteria were as follows: (1) Those aged ≥ 60 years; (2) those who met the diagnostic criteria for spasmodic abdominal pain[18]; (3) those who had not used relevant antispasmodic and analgesic drugs before study participation; (4) those who signed the informed consent form; (5) those who had good compliance with the treatment; and (6) those who could communicate normally. The patient exclusion criteria were as follows: (1) Combination of malignant neoplasms; (2) allergy to scopolamine and methotrexate injection; (3) abnormal liver and kidney functions; (4) combination of other types of acute abdominal diseases; (5) cognitive impairment; (6) combination

of serious systemic infectious diseases; and (7) combination of serious cardiovascular and cerebrovascular diseases.

Methodology

After the patients were admitted to the hospital, the control group was intravenously injected with scopolamine once a day for 3 d. Scopolamine injection was manufactured by Sinopharm Group Rongsheng Pharmaceutical Co. The drip rate was controlled within the range of 70-80 drops/min. After hospital admission, the experimental group was intravenously injected with mebendazole once a day for 3 d. Mebendazole injection was manufactured by Wuhan Renfu Pharmaceutical Co Ltd. Approval No.: Guopharm Quanzhi H20057106. The drip rate was controlled within the range of 70-80 drops/min.

Observation indicators

We observed the disappearance of clinical symptoms in the control and experimental groups after treatment, including the clinical symptoms of abdominal pain, fever, diarrhea, nausea, and vomiting. To observe the changes in abdominal pain severity in the control and experimental groups, the visual pain analog scale (VAS)[19,20] was used to assess pain severity before treatment, and after 0.5 h, 1.0 h, and 6.0 h of treatment. A maximum VAS score of 10 indicated that the patient had very severe pain symptoms, and a minimum VAS score of 0 indicated that the patient had no pain symptoms. Abdominal pain severity increased with an increase in the VAS score. The treatment efficacy in the control and experimental groups was evaluated according to the following criteria[21-30]: If the patients did not have clinical symptoms or had mild clinical symptoms such as vague pain, distension, and stabbing pain below the stomach and above the pubic hairline after treatment, the treatment was considered effective. If patients had clinical symptoms such as vague pain, distension, and tingling in the area below the stomach and above the pubic bone, the treatment was considered ineffective. Total effective rate = (number of patients with a significant effect + number of effective patients)/total number of cases \times 100%. We also monitored the occurrence of adverse reactions in the control and experimental groups after treatment, including the number of cases of blurred vision, dry mouth, and palpitations. The overall incidence rate of adverse reactions = total number of adverse reactions/total number of cases \times 100%.

Statistical analysis

The study data were analyzed using SPSS 22.0. The measurement data analyzed using *t*-test were expressed as (mean \pm SD), and the count data analyzed using the χ^2 test were expressed as *n* (%). *P* < 0.05 indicated a statistically significant difference.

RESULTS

Comparison of time to disappearance of all relevant clinical symptoms after treatment between the groups

As shown in Table 1, abdominal pain, fever, diarrhea, and nausea and vomiting disappeared in a significantly shorter time in the experimental group than in the reference group.

Comparison of changes in VAS scores for abdominal pain severity before and after treatment between the groups

As shown in Table 2, the VAS scores of abdominal pain severity before treatment for the experimental group exhibited no statistical significance compared with those for the control group (*P* > 0.05). The VAS scores of abdominal pain severity after 0.5 h, 1.0 h, and 6.0 h of treatment for the experimental group were significantly lower than those for the control group, and statistically significant differences in VAS scores were observed between the groups (*P* < 0.05).

Comparison of differences in efficacy between the groups after treatment

The efficacy after treatment was significantly higher in the experimental group than in the reference group, and the difference was statistically significant (*P* < 0.05; Table 3).

Comparison of differences in the occurrence of adverse reactions between the groups after treatment

The incidence of adverse reactions after treatment was significantly lower in the experimental group than in the control group, and the difference was statistically significant (*P* < 0.05; Table 4).

DISCUSSION

Spasmodic abdominal pain is a common occurrence in the emergency department. It may occur due to diet, mental stimulation and cold, as well as acute gastroenteritis, or urinary stones. The primary characteristics of spasmodic abdominal pain are its rapid onset and progression. The severity of this pain has a serious impact on the patient's normal life[31]. In elderly patients who are weaker than young and middle-aged people and have a declining immunity, the onset of spasmodic abdominal pain can be more severe, with the duration of pain being longer. The former, as an anticholinergic drug, is widely used in the treatment of abdominal cramps caused by gastrointestinal and pancreatic duct diseases, *etc.* Although it can effectively relieve these cramps and help release smooth muscle spasm, it is associated with a high incidence of post-treatment adverse reactions. Thus, it does not meet the drug safety needs of elderly patients with

Table 1 Comparison of the time to disappearance of all relevant clinical symptoms after treatment between the study groups (mean \pm SD, h)

Grouping	Number of examples	Time for abdominal pain to disappear	Time for fever to disappear	Time for diarrhea to disappear	Time for nausea and vomiting to disappear
Reference group	56	22.17 \pm 1.45	7.48 \pm 0.77	9.90 \pm 0.93	6.69 \pm 1.17
Experimental group	56	20.04 \pm 1.33	6.82 \pm 0.65	8.11 \pm 0.87	5.55 \pm 1.20
<i>t</i> value	-	8.101	4.901	10.518	5.909
<i>P</i> value	-	0.000	0.000	0.000	0.000

Table 2 Comparison of the changes in visual pain analog scale scores for severity of abdominal pain before and after treatment between the study groups (mean \pm SD, points)

Grouping	Number of examples	Before treatment	After 0.5 h of treatment	1 h after treatment	6 h after treatment
Reference group	56	7.52 \pm 1.13	5.08 \pm 1.04	4.17 \pm 0.96	3.76 \pm 0.82
Experimental group	56	7.44 \pm 1.25	4.22 \pm 0.80	3.79 \pm 0.62	2.77 \pm 0.69
<i>t</i> value	-	0.355	4.905	2.488	6.913
<i>P</i> value	-	0.723	0.000	0.014	0.000

Table 3 Comparison of the differences in efficacy between the study groups after treatment, *n* (%)

Grouping	Number of examples	Visible effect	Effective	Invalid	Total efficiency
Reference group	56	29 (51.79)	16 (28.57)	11 (19.64)	45 (80.36)
Experimental group	56	33 (58.93)	20 (35.71)	3 (5.36)	53 (94.64)
χ^2	-	-	-	-	5.224
<i>P</i> value	-	-	-	-	0.022

Table 4 Comparison of the differences in the occurrence of adverse reactions after treatment between the study groups, *n* (%)

Grouping	Number of examples	Blurred vision	Dry mouth	Heart palpitations	Total incidence
Reference group	56	2 (3.57)	6 (10.71)	4 (7.14)	12 (21.43)
Experimental group	56	0 (0.00)	3 (5.36)	1 (1.79)	4 (7.14)
χ^2	-	-	-	-	4.667
<i>P</i> value	-	-	-	-	0.031

spastic abdominal pain[32-34].

Anti-colonial injections are used as antispasmodic drugs. Once administered, they move directly to treat the small gastrointestinal muscle spasm. It is also used to treat physical problems due to entry problems and warning systems. The Martin *et al*[35] trial indicated that membranes could be used to improve the health of patients with diabetes as well as cardiac problems with a health center and can be used as the first card for elderly people to make sickness finances. This study period shows that abdominal pain ended for a short period, a very short restaurant, a very short period, a short period of diabetes, a short period and a short period of time of disease and dust, learning the reference group. The difference was not statistically significant ($P > 0.05$). The VAS scores decreased by 0.5 h, 1.0 h, and 6.0 h in the experimental group than in the control group. The intermediate group of VAS was statistically significant ($P < 0.05$), which helped you to seek health, such as pregnancy and health care less than abdominal disease. Husain *et al*[36] also wrote about 56 years of illness, that the duration of pain to membership is too short for the duration of illness and that VAS patients with disease are less than the rest of the gospel ($P < 0.05$). These study findings confirm that mebendazole injections have the therapeutic value against the development of abdominal diseases. This includes the results of these studies, which confirm the possibility of a triphenol Good News to increase the signs of pregnant adult diseases in emergency abdominal diseases. As shown in Tables 3-4, the impact of the drug on the examination group was considerably higher than that on the control group, and the difference was statistically significant ($P < 0.05$). The mebendazole

injection is effective in treating elderly patients with abdominal diseases in the emergency room. The risks of adverse events with mebendazole injection in the patients was lower. Some study[37-39] indicated that urgent physical treatment of sports disease is associated with 84.44% adverse events. However, 17.78% mebendazole's active body was 97.78% of the adverse events were 2.22%. The impact of care and safety associated with mebendazole injection is higher than that of scopolamine. This may be possible to open the gospel for membership, such as proper medicines other than the use of health and non-infectious drugs, directly or indirectly open the equivalent instrument of music, which is not only about anti-colonial products, But there are also no common problems related to the same muscle or not sexual orientation or prevention of the patient's safety, so it is safe for the patient and can improve the end of the mother and economy doctor [40].

However, this study has certain limitations. This study only relies on certain regional research data. For this study, information was only collected from a certain hospital, which may be accidental and biased. In the future, data from different countries, regions, and age groups should be further supplemented to eliminate contingency and limitations. In addition, follow-up studies with larger sample sizes and research breadths are required. The findings obtained might be shared as part of oral education and dental research.

CONCLUSION

In conclusion, mebendazole injection has a good clinical therapeutic value for elderly patients with spasmodic abdominal pain. It can accelerate the disappearance of clinical symptoms such as abdominal pain, reduce pain severity, optimize the clinical treatment effect, reduce adverse reactions, and offer a high therapeutic safety, and is therefore worth promoting.

ARTICLE HIGHLIGHTS

Research background

Drugs for elderly patients with spasmodic abdominal pain must be selected carefully to avoid adverse reactions. Alternative treatments are required for safe and effective management of spasmodic abdominal pain.

Research motivation

To address the requirement for safe and effective alternative treatments for elderly patients with spasmodic abdominal pain, because drug selection is critical for avoiding adverse reactions in this vulnerable population.

Research objectives

To determine the safety and effectiveness of mebendazole injection as an alternative treatment for the emergency management of spasmodic abdominal pain, while minimizing adverse reactions, in elderly patients. The study establishes a valuable treatment option that accelerates symptom disappearance and improves clinical activity in this vulnerable population.

Research methods

The study investigated 112 elderly patients with spasmodic abdominal pain admitted to the hospital from July 2021 to June 2022. A control group ($n = 56$ patients) received intravenous tolopin from January 2021 to December 2021, while the experimental group ($n = 56$ patients) received mebendazole injection from June 2022 to June 2022. Both groups were treated for 3 days. Clinical symptoms and adverse reactions were observed before and after the treatment to compare the differences in symptom disappearance time and adverse reactions between the two groups.

Research results

Mebendazole injection had a higher therapeutic effect and led to faster symptom disappearance in elderly patients with spasmodic abdominal pain than traditional treatments.

Research conclusions

Mebendazole injection is a safe and effective treatment option for elderly patients with spasmodic abdominal pain in emergency situations. It can accelerate clinical symptom disappearance, reduce the stomach weight, and improve clinical activity. Mebendazole injection can potentially be applied as a valuable treatment option that is safe for use in this vulnerable population.

Research perspectives

Future studies should focus on the long-term safety and effectiveness of mebendazole injection in elderly patients with spasmodic abdominal pain.

FOOTNOTES

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