

# Clinical efficacy and safety of benzbromarone in elderly hypertensive patients with hyperuricemia

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**Abstract:** To analyze the efficacy and safety of benzbromarone in elderly hypertensive patients with hyperuricemia. Sixty-six elderly hypertensive patients with hyperuricemia admitted to Beijing Civil Aviation General Hospital from February 2017 to February 2018 were enrolled in the study. According to computer randomization method, they were divided into two groups: The control group and the treatment group and there were 33 cases in each group. The routine treatment was used in the control group. The conventional treatment combined with benzbromarone treatment was applied to the treatment group. The clinical efficacy, blood pressure, blood uric acid level, inflammatory factor level and adverse event rate were analyzed. Clinical efficacy of the treatment group was higher than that of the control group ( $P<0.05$ ); blood pressure, blood uric acid level, and inflammatory factor level in the treatment group was better than that of the control group ( $P<0.05$ ); the incidence of adverse events in the treatment group was lower than that of the control group ( $P<0.05$ ). Elderly hypertensive patients with hyperuricemia treated with benzbromarone have a significant clinical effect, which has a positive effect on improving clinical symptoms and reducing the probability of adverse events, and has a high clinical promotion value.

**Keywords:** Hyperuricemia, senile hypertension, benzbromarone, therapeutic effect.

## INTRODUCTION

Hypertension is the most common cardiovascular disease in the clinic, which occurs mainly in the elderly people. However, China is gradually entering the aging stage, which increases the incidence of hypertension in the elderly. With the constant changes in people's diet, the incidence of hyperuricemia has risen linearly. Under normal sputum diet, fasting blood uric acid levels rise in different time periods, which leads to hyperuricemia (Gao 2017). Clinical studies have found that the occurrence of hyperuricemia is directly related to coronary heart disease, hypertension, etc., which can improve blood uric acid levels in the blood. Elderly hypertensive patients with hyperuricemia will aggravate the condition and have a serious impact on patients quality of life and life safety (Shi and Geng 2017). In the clinical treatment of senile hypertension with hyperuricemia, conventional treatment is often used, but the treatment effect is not satisfactory. Therefore, finding an effective treatment is essential. In this study, 66 elderly hypertensive patients with hyperuricemia admitted to our hospital were included as subjects to analyze the efficacy and safety of benzbromarone in elderly hypertensive patients with hyperuricemia.

## MATERIALS AND METHODS

### *General materials*

The study period was from February to February 2018, 2017. Sixty-six elderly patients with hyperuricemia

admitted to Beijing Civil Aviation General Hospital during the above period were selected for research. All the subjects were adequately informed of the study, and they voluntarily signed consent to participate. This study has been approved by our ethics. According to computer randomization method, they were divided into the control group and the treatment group, there were 33 cases in each group. The general data of the two groups of patients participating in the study were analyzed, and there was no significant difference ( $P>0.05$ ). Diagnostic criteria: Refer to the 2016 version of the guidelines for hypertension, and diagnosed with hyperuricemia based on clinical examination (Xia 2018). At the same time, patients with abnormal symptoms, drug-sensitive syndromes, heart, liver and kidney, and other important organs were excluded, and all patients volunteered to participate and signed an informed letter with our hospital.

### *Methods*

After the patient was admitted to the hospital, according to the clinical signs and symptoms, the corresponding examination was conducted. After the condition was confirmed, both groups of patients were treated with low-grade diet control. The treatment group is treated with this combination of benzbromarone (HEUMANN PHARMA/Kunshan Longlight Ruidi Pharmaceutical Co., Ltd., and the Chinese medicine standard J20130141). Oral, 25mg/time is the initial dose, once/d, after taking 4w, the dose was increased to 50 mg once a day. After taking 12 weeks, the dose was increased again to 100 mg once daily, and the time of administration was after breakfast. During the course of medication, if the patient has unstable symptoms, other antihypertensive drugs can be taken as

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**Table 1:** Comparison of blood pressure, blood uric acid level and inflammatory factors ( $\bar{x} \pm s$ ; n=33)

| Group       | Systolic blood pressure | Diastolic blood pressure | Blood uric acid level | TNF- $\alpha$  | IL-6            |
|-------------|-------------------------|--------------------------|-----------------------|----------------|-----------------|
| Abservation | 137.7 $\pm$ 5.5         | 75.8 $\pm$ 1.8           | 490.7 $\pm$ 27.4      | 35.3 $\pm$ 4.6 | 163.7 $\pm$ 6.5 |
| Control     | 122.6 $\pm$ 3.7         | 68.7 $\pm$ 1.3           | 304.9 $\pm$ 29.9      | 39.8 $\pm$ 5.2 | 188.7 $\pm$ 7.8 |
| <i>t</i>    | 13.086                  | 18.369                   | 26.318                | 3.723          | 14.145          |
| <i>p</i>    | 0.000                   | 0.000                    | 0.000                 | 0.000          | 0.000           |

prescribed by the doctor, but such patients need to be excluded from the study.

### Analysis index

The clinical efficacy, blood pressure (systolic blood pressure, diastolic blood pressure), blood uric acid level, inflammatory factor level and adverse event rate were analyzed.

The clinical efficacy evaluation criteria were based on the patient's blood pressure level and blood uric acid level, and the clinical efficacy was determined according to the clinical disease diagnosis criteria: After treatment, the clinical symptoms and signs disappeared and the blood pressure level was restored and no other complications were markedly effective; After treatment, the clinical symptoms and signs disappeared significantly and the blood pressure level had returned to the critical high level. After treatment, the clinical symptoms and signs, blood pressure levels did not change, and the condition was even ineffective (Che and Xi 2016). Clinical efficacy = markedly effective + effective / total  $\times$  100%. The levels of inflammatory factors were measured by radioimmunoassay for TNF- $\alpha$  and IL-6 levels.

### STATISTICAL ANALYSIS

The statistical software of this paper is SPSS24.0, ( $x \pm s$ ) indicates blood pressure and blood uric acid level, inflammatory factor level, Row *t* test; % indicates clinical efficacy and incidence of cardiovascular events, line  $\chi^2$  test,  $P < 0.05$ , statistically significant.

### RESULTS

#### Comparison of clinical effects

The clinical efficacy of the treatment group was 97% (32/33), of which 24 cases were markedly effective, eight cases were effective and one case was ineffective. The clinical efficacy of the control group was 78.8% (26/33), of which 17 cases were markedly effective, nine cases were effective and seven cases were ineffective. There was a difference between the groups,  $\chi^2=5.121$ ,  $P=0.234$ .

#### Comparison of blood pressure, blood uric acid level and inflammatory factors

Blood pressure, blood uric acid level and inflammatory factor levels were better in the treatment group than in the control group,  $P < 0.05$  (table 1).

#### Incidence rate

There were no adverse events in the treatment group, and five adverse events occurred in the control group. The incidence of adverse events was 15.2% (5/33). There was a difference between the groups,  $\chi^2=5.410$ ,  $P=0.020$ .

### DISCUSSION

At present, the incidence of hypertension in China is high, and with the constant changes in dietary structure, it increases the incidence of hypertension and hyperuricemia. Hyperuricemia is a risk factor for hypertension, blood uric acid affects insulin control, increases insulin levels and reduces renal uric acid output, which increasing blood pressure level, therefore blood uric acid levels can predict the development and prognosis of hypertension. In addition, high blood pressure can cause damage to blood vessels and ATP is restricted to cause hypoxia, which causes damage to cardiovascular and cerebrovascular diseases.

### CONCLUSION

In clinical treatment, the treatment with benzbromarone is more effective and benzbromarone can inhibit the reabsorption of uric acid by renal tubules, increase the excretion of uric acid, reduce the concentration of plasma uric acid and the benzbromarone has certain reversibility. After taking the medicine for four hours, benzbromarone can increase the peak plasma concentration of the patient and promote the metabolism of bromophenia. After entering the bile, the feces will leave the body and have less impact on the body, further improving the therapeutic effect (Huang *et al.*, 2017). In summary, the efficacy and safety of benzbromarone in elderly hypertensive patients with hyperuricemia are high and worthy of promotion.

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