

Oryzanol New Clinical Applications

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Abstract: Oryzanol are plant vitamins, which has a major role in the autonomic nervous system and secretory centre of the diencephalon. It is used to treat autonomic nervous dysfunction, periodic psychosis, brain concussion sequelae, periodic schizophrenia, menopausal syndrome, premenstrual tension, as well as for gastric and duodenal ulcer, chronic gastritis, etc. In recent years, with the growth of clinical research and application studies, its usage has become more extensive. The new clinical uses of oryzanol are described below.

Keywords: Oryzanol; Clinical; New use

1. Treatment of hyperlipidemia

The clinical result shows that for patients with hyperlipidemia when taken 200 mg Oryzanol orally each time, 3 times a day, for 12 weeks, the cholesterol and triglycerides levels of the patients have decreased significantly. Oryzanol is effective in lipid-lowering. It is safe and cheap [1].

2. Anti-arrhythmia

Wang et al. [2] used rats to study the antiarrhythmic effects of oryzanol. The Oryzanol powder was mixed into the feed at 60 mg/kg daily and fed continuously for 4 days. The control group was fed with regular feed. The results show that Oryzanol has anti-arrhythmic effects, and its mechanism is related to regulating the central, peripheral, and cardiac autonomic nerve functions and antagonizes catecholamines. Wang et al. [3] used Wenxin Granules (a type of Chinese medicine from the brand Buchang) and Oryzanol to treat premature beats. Wenxin Granules 1 bag (9 g) each time, 3 times a day; Oryzanol tablets, 100 mg each time, 3 times a day. The dosage was reduced (50 mg each time, 3 times a day) after a positive effect was observed. The result shows that the combination of Wenxin Granules and Oryzanol has a good curative effect on the treatment of premature beats, and was able to significantly improves the symptoms of chest tightness and palpitations. It showed few adverse reactions and had a positive anti-arrhythmic effect, thus making it worthy of extensive clinical application.

3. Treatment of Clozapine-induced hypersalivation

The salivation rate of the antipsychotic drug Clozapine is as high as 40 - 82 % [4]. Li [5] clinically used Oryzanol to treat hospitalized schizophrenia patients who had Clozapine-induced salivation. They were given Oryzanol twice a day, 20 mg each time. 14 days later, according to the evaluation standard of Weng [6], the salivation flow decreased significantly after the treatment with Oryzanol. No antagonistic effect caused by Oryzanol on the antipsychotic effect of Clozapine was observed.

4. Treatment of Pediatric Neurogenic Bladder

Wang [7] treated 40 cases of Pediatric Neurogenic Bladder with Anisodamine and Oryzanol. Anisodamine was prescribed at 0.1 - 0.2 mg/kg each time, 2 - 3 times/day and Oryzanol was prescribed at 5 - 10 mg each time, 3 times/day. A complete course of treatment lasts for 3 days. After the first course of treatment, 28 cases (70 %) were cured and 12 cases (30 %) showed improvements. All children were cured after the second course of treatment. Anisodamine is an M receptor blocker, which relaxes smooth muscles and increases bladder retention. Oryzanol can regulate autonomic nerve function and promote bladder function recovery. The combination of these two can significantly improve the efficacy. Yang [8] used Oryzanol and Probensine to treat children with Neurogenic Bladder, which also showed significant success.

5. Prevent Migraine Attacks

Guan [9] clinically used Oryzanol and Nimodipine to prevent 100 cases of migraine attacks. 40 mg Nimodipine, 3 times/day, and 20 mg Oryzanol, 3 times/day were used. The drug was discontinued after 3 months of continuous administration. The frequency and duration of migraine attacks were observed from the time of starting the drug. The total effective rate was 86.8 %. Oryzanol has the function of regulating autonomic nervous dysfunction and improving the endocrine, which can prevent the onset of headache. Nimodipine is a calcium antagonist, which can reverse cerebral vasospasm induced by serotonin, prostaglandin, catecholamine, and fibrin, etc., anti-migraine early cerebral hypoxia symptoms, and inhibit migraine attacks. Nimodipine combined with Oryzanol in the treatment of migraine is effective and safe. It can ease the patients' symptoms, delay their natural course of the disease, and have good application prospects.

6. Treatment of provisional (transient) tics disorder

Provisional tic disorder is a mental development disorder caused by genetic defects and adverse environmental factors. Xie et al. [10] used Oryzanol combined with Inosine tablets to treat provisional tics (10 mg Oryzanol each time, 60 - 80 mg/kg Inosine tablets, orally 3 times a day) while giving guidance on behavioural-weakening treatments. After 10 days of treatment, some patients were cured. After 2 months of treatment, the recovery rate is 72.7 %. The longer the treatment, the higher the recovery rate. The use of Oryzanol combined with Inosine tablets in the treatment of provisional tics has achieved satisfactory results, considering that Oryzanol inhibits the release of norepinephrine in the brain, reduces the rate of catecholamine metabolism, while Inosine inhibits dopamine release and repairs the striatum.

7. Treatment of peptic ulcer

Shi et al. [11] combined the basis of traditional triple-therapy (omeprazole, amoxicillin, bismuth) with Oryzanol in the treatment of 120 cases of peptic ulcer. The effect was significant. All 120 patients were diagnosed with *Helicobacter pylori* (Hp) positive active ulcer by gastroscopy. Prescription: 20 mg omeprazole, 1 time in the morning and evening; amoxicillin 0.5 g, 3 times/day; 110 mg Livzon Dele granules (bismuth potassium citrate granules), 3 times/day (30 minutes before meals); 20 mg Oryzanol, 3 times a day. After taking the above drugs for 2 weeks, stop taking Amoxicillin and Livzon Dele, continue to take 20 mg omeprazole, 3 times a day and 20 mg Oryzanol, 3 times a day, for 2 weeks. The total course of treatment is 4 weeks. The ulcer healing rate was 97.1 %, and the Hp negative rate was 97.1 %. Oryzanol is a mixture of ferulic acid esters with triterpene alcohol as the main body. It can adjust autonomic nerve function, reduce endocrine balance disorders, and improve

the symptoms of mental nerve disorders. At the basis of triple-therapy, when Oryzanol is added to treat peptic ulcer, the ulcer healing rate is higher, the pain is relieved quickly, and a complete Hp removal is achieved. The treatment course is shorter with few side effects.

8. Treatment of abdominal pain with unknown origins [12]

400 cases of abdominal pain with unknown origins were generally treated with anisodamine + Anluotong (a type of Chinese medicine) + Oryzanol. Antibiotics + anisodamine + Oryzanol are used for those with increased white blood cells. Salicylic acid preparations + Oryzanol + anisodamine for low-fever patients; Chengyunning (a type of Chinese medicine) + Rotundine + anisodamine for those with headaches and dizziness; Metronidazole + oryzanol + anisodamine for patients with nausea and vomiting. After treatment for 1 week to half a month, 350 cases were cured, accounting for a recovery rate of 87.5 %. 40 cases showed improvements, accounting for 10.0 %. The total effective rate is 97.5 %.

9. Treatment of bacillary dysentery [13]

The treatment is 100 - 200 mg of Oryzanol each time, 3 times a day, on an empty stomach, for 3 - 4 days (without any other antibiotics during this period). It has been reported that 49 cases were treated with a recovery rate of 96.0 %, among them 47 cases were cured within 2 days. In the control group, the recovery rate of compound trimethoprim was only 62.5 %. Experts believe that the mechanism of Oryzanol in the treatment of bacillary dysentery is to adjust or stimulate the immune system or autonomic nervous system and promote the early repair of intestinal inflammation. As such, it has the characteristics of a short treatment course, yields a quick result, is a simple method and with no side effects.

10. Treatment of pediatric pica

The desired result was achieved after 1 week when Oryzanol was taken orally 3 times a day, 10 mg each time. Therefore, it is believed that Oryzanol can eliminate pica by regulating the function of the diencephalon and autonomic nerves.

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