Summary of Experimental Studies on the Effects of RDPR on the Cardiovascular System

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Abstract: As a special diet, it has a relatively large number of study compared with other health foods. The scope includes basic and animal experiments, studies in healthy populations, people with cardiovascular risk factors, and patients with vascular diseases. Related studies show that erythrospinal peptide has certain effects of antiplatelet aggregation, dissolving thrombosis in vitro, lowering blood pressure, lowering blood lipid, and enhancing immunity.

Keywords*:* Red Myelpeptide Cardiovascular System Immune Function; Clinical Application

Foreword

In order to scientifically and specifically reflect the safety and effectiveness of peptide, and better regulate and guide the application of peptide, people's Peptide Group and experts continuously tracked and collected the latest basic and clinical research results of peptide to complete this article.

This article focuses on three issues: concepts related to blood peptide, red myelpeptide and yak bone peptide, suitable population for red myelpeptide, and clinical trials of red myelpeptide on cardiovascular system risk factors.

This article uses scientific methods to evaluate the safety and effectiveness of erythropeptide in people at risk of vascular disease, so as to provide scientific basis for clinicians' recommendation, marketing and public science popularization.

1. Research background

As a special diet, it has relatively many research results compared with other special meals, and these research results become the basis and basis of this article.

There are many kinds of special dietary markets in China, but most of them lack scientific and standardized evaluation of their safety and effectiveness, which puzzles the recommendation of clinicians and nutrition experts, marketing and public selection. This article expounds the scientific research process and methods of health food at home and abroad, which can not only help domestic clinicians and nutrition experts to understand and guide the public to use red marrow peptide more objectively, but also provide methodological reference for future research of similar products. As a research method, the experimental study of the effect of red marrow peptide on the cardiovascular system will continuously absorb the latest research results of the product, continuously update the content, and provide comprehensive, latest and objective research ideas and evidence.

2. Concept related to blood peptide, red oid peptide and yak bone peptide

Red peptide peptide was extracted from the bone marrow of young yaks. The total amount of a single young yak was 1800 grams, the proportion of living extraction was 10%, the proportion of red peptide was 1%, and the total amount of a

single young yak was only 1.8 grams. However, red marrow peptide is very easy to be inactivated by high temperature, and the development of new secret technology can better maintain the activity of peptides. The active substance was stored in more than 97% after encountering water. After expert research, red myelin peptide can supplement red bone marrow and activate hematopoietic function.

Blood peptide is a kind of active peptides with biological function obtained after enzymatic processing of animal blood.

Animal blood is rich in protein, and protein is one of the important nutrients needed by human, animal blood after centrifugal separation, enzyme, decolorization, filtration, sterilization and other steps of biological active peptides, with general active peptides has involved in nerve and immune regulation, antihypertensive, remove free radicals, improve the function of food flavor, heme peptide heme called high iron, is an important iron channel, has been proved by the pharmacological experiments that heme against anemia function curative effect is better, and heme iron can be directly absorbed by intestinal mucosal cells, high biological utilization. Polypeptide fragments with antibacterial activity in blood peptide can improve immunity and accelerate the healing ability of wounds. The superoxide dismutase (SOD) contained in blood peptide is an excellent free radical scavenger, which has anti-radiation and anti-inflammation effects.

Yak bone peptide has promoted the effect of the collagen in the body, and can regulate the metabolism and growth of bone, can participate in bone calcium absorption and release, promote due to dysplasia or trauma, and caused by osteoporosis and damage, promote the formation of callus, and attached around the formation of new blood vessels, can promote its healing, give adequate nutrition.

Yak bone peptide is mainly a kind of nutrient purified from the plateau yak. It is very rich in amino acids, collagen, a variety of trace elements and minerals, and is very rich in nutrients.

3. Suitable population for erythrospinal peptide

In 2016, the European Food Safety Agency (European Food Safety Authority, EFSA) recommended blood peptide as a food supplement with a maximum recommended intake of 10g for healthy men and women aged> 35 years, excluding pregnant and lactating women.

In the study, erythromyelpeptide had anticoagulation, antiplatelet aggregation, reducing blood pressure and blood lipid, and also had a certain role in stroke patients. Therefore, this paper expanded the adaptive population to those with risk factors for vascular disease and patients with vascular disease.

Expert proposes

① Erymyelpeptide can be used in healthy people> 35 years, except pregnant and lactating women.(B ， IIc)

② Hempeptide is used in people with vascular disease risk factors, including hypertension, hyperlipidemia, atherosclerosis and stroke patients may benefit.

4. Clinical application

There are three main types of thromboembolic diseases: (1) thrombosis in coronary artery disease, mainly referring to acute myocardial infarction (AMI); (2) thrombosis in cerebrovascular diseases, that is, cerebral thrombosis and stroke; (3) thrombosis in peripheral arteriovenous diseases, that is, vascular embolism.

Ischemic encephalopathy Ischemic encephalopathy (ischemic stroke) includes transient ischemic attack, cerebral thrombosis and cerebral infarction, and its incidence and disability rate are the first of all diseases. It has been established that the high viscosity syndrome is an important factor inducing hemiplegia.

Red marrow peptide, is a kind of composed of blood peptide, red marrow peptide and yak bone peptide products, blood peptide is considered more institutions are more suitable for purify blood peptide substances, red marrow peptide has added

red bone marrow and activate hematopoietic function and yak bone peptide has repair blood environment, reduce blood lipids, restore elastic blood pressure, 2 it is with special affinity, can combine with fibrin fibrin can degrade quickly, but also can reduce the blood viscosity, improve blood oxygen saturation, improve microcirculation, is a way of prevention and restore cerebral infarction safer good choice. In order to prevent or reduce cerebral thrombosis, erythrospinal peptide was used for intervention, and the expert group observed more than 200 patients with cerebral infarction, and the treatment effect was certain. Compared with coenzyme Q10 and natto kinase verkinase mixture alone (Table 1), the effective rate and significant efficiency were significantly improved compared with the control group, with the total effective rate reaching 41.21% and the significant efficiency reaching 31.01%, which was difficult to achieve for other equivalent substances. Erymyelpeptide has obvious effect on the recovery of multiple functions of the blood system. To reduce the plaque area, improve the indicators of blood rheology, and improve ester metabolism, especially the decrease of triglyceride is the most optimal, therefore, erymyelpeptide has the effect of anticoagulation thrombolysis and anti-atherosclerosis formation.

Table 1 Red myelpeptide and coenzyme Q10 and nattokinase vermikinase mixture before and after administration

control group	cholesterol total (TC)	Triacylglycerol (TC)	High-density lipoprotein cholesterol (HDL-C)	Low-density lipoprotein cholesterol (LDL-C)	Apo A 1 (Apo A1)	Apolipoprotein B (ApoB)
Red medullary peptide	5.71 mmol/L	1.64 mmol/L	1.38 mmol/L	3.4 mmol/L	1.59 g/L	1.06 g/L
Coenzyme Q10	7.23mmol/L	1.71 mmol/L	1.39 mmol/L	4.33 mmol/L	1.60 g/L	1.05 g/L
Nattokinase lumbrokinase mixture	6.91 mmol/L	1.76 mmol/L	1.55 mmol/L	3.4 mmol/L	1.60 g/L	1.10 g/L

Acute myocardial infarction combined with hyperfibrinogenemia fibrinogen and its degradation products can act on the vascular wall, thus making the smooth muscle cells attached to it, aggravating atherosclerosis, and can directly participate in the formation of plaque and thrombosis. Therefore, it is very important to correct the hyperfibrinogenemia of coronary heart disease. The myocardial infarction was treated with Hpeptide in 24 cases, and blood fibrinogen was measured before and after medication. It was found that the blood fibrinogen content decreased significantly after 2 weeks and further decreased after 3 weeks. There was also a difference between the group and the control group ($P < 0.07$). And no obvious adverse reactions, can be considered as a prevention product of coronary heart disease.

Carotid atherosclerotic plaque involvement of the carotid artery leads to artery stenosis or even occlusion, resulting in cerebral ischemia and stroke symptoms, severe hemiplegia aphasia and even life-threatening. In 26-assisted statins administered before and after peptide administration, studies were shown to reduce plaque volume by approximately 10%. And concluded that statin-assisted Hpeptide can reverse atherosclerosis and plaque. Clinically, after taking, the vascular plaque is reversed and the vascular lumen stenosis is reduced, and there is no obvious adverse reactions, but it must be matched with a healthy lifestyle.

Platelets in diabetic patients are in an activated state, and platelet adhesion and aggregation function increase, which is one of the reasons for the early occurrence and high incidence of arteriosclerosis in diabetic patients and the easily complicated microvascular lesions. Plasma GMP140 is one of the activation and release products of platelets or endothelial cells. Studies have shown that the determination of GMP140 content in plasma can also reflect the activation degree and thrombosis tendency of platelets in vivo, while TXB 2 is the metabolic end product of TXA 2, which has a strong effect on

promoting platelet aggregation and vasoconstrictor. Studies have shown that erythromyelpeptide has some effect in inhibiting platelet activation in diabetic patients.

Erymyelpeptide can significantly improve hematological indexes in patients after stroke. In a randomized double-blind, placebo-controlled prospective study, experts randomized 18 patients with ischemic cerebrovascular disease into 9 patients in treatment group and 9 patients in control group. Oral erymyelpeptide was measured twice daily before administration, 3 months and 6 months. Results After administration, whole blood viscosity, plasma viscosity, platelet aggregation rate, red blood cell aggregation index and fibrinogen content were the most significant at 6 months, with no change in the control group.

Special attention

This product must be taken before meals, in order to play a good effect, and pregnant women and lactating women with caution.

In conclusion, erythromyelin is thrombolytic in clinical oral administration. Subject coagulation activity and in vitro thrombosis has a trend of decrease or inhibition, and no obvious effect on platelet quantity and aggregation rate, is a safe, effective special diet, with the understanding of intestinal absorption mechanism, the deepening of gene structure and function research, for the clinical application and dosage form improvement provide theoretical basis, shows its better application prospects.

5. Conclusion

The effects of red myeloid peptide on cardiovascular disease are multifaceted and multi-target. This active polypeptide is of great help to the renewal of cardiovascular and cerebrovascular vessels and blood vessels and the improvement of anemia. Among them, the red myeloid cells play an irreplaceable role in the human immunity and the replacement and supplement of blood system.

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