

Valuable Properties of the California Red Worm and Its Importance in the Treatment of Human Diseases

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Abstract Earthworms have long been used by people to treat a number of diseases. A great contribution to their study was made in the countries of Southeast Asia and in China. [1] The use of earthworms has been known in these countries for 2300 years. In Chinese medicine, there are a considerable number of treatises and recommendations for the use of annelids for the treatment of human diseases, both in purified, dried, and live form. With atherosclerotic blockage of arterial vessels with concomitant tinnitus and dizziness, ground powder of dried and this terrestrial invertebrate—earthworm is used for medicinal purposes.

Keywords Earthworms, Infections, Hematopoietic, Lipopolysaccharide, Blood

1. Introduction

The lipid composition of the tissues of these worms is similar to the lipid composition of the tissues of some fish, which are easily digestible fats and high-energy unsaturated lipids. Interestingly, the nutritional value and composition of the substances of earthworms, without a doubt, can be compared with the eggs of birds. Touching upon the topic of the medicinal properties of Lumbricina, ancient Chinese medical manuscripts mention that earthworms can be used as an antipyretic and analgesic. Coelomic fluid serum has other properties and can be used as a detoxifying agent, they can also be used to treat hypertension and facilitate delivery. Wound treatment with ointment based on earthworm extract is effective, as it also helps in many common other diseases, such as burns, scabies and arthritis. In addition, it can be used for purulent abscesses, erysipelas and other inflammatory processes. [2]

Earthworms live in soil rich in organic fertilizers, so they have oxygen metabolism and antioxidant properties. Dried red worms have also been successfully used to improve health conditions such as joint pain, migraines and insomnia. [3] Earthworms living in the thickness of the soil, passing it through their digestive system, accumulate minerals useful for human health in the body. The body of the worm produces a unique mucus, which has antiseptic properties, prevents various diseases and which is used as a preventive medicine at the beginning of the development of pathologies. In addition, lotions, ointments and tablets are prepared on the basis of a liquid extract taken from small-scale worms. [4]

2. Methodology

The study of the medicinal properties of the earthworm and its use as a therapeutic agent in human diseases.

The following technological steps were used in the preparation of the serum:

1. Mature medium-fat earthworms are isolated from the soil, for subsequent material, in three parts;
2. The sample taken in gauze is first washed under running water, then washed with distilled water, then washed in a liquid with a drug dissolved in water;
3. In a special medical device, coelomic fluid is extracted through gauze from the regenerative zone taken for the earthworm test. It takes at least 30 days to collect 1 ml of liquid, but no more than two months;
4. Using a biochemical analyzer, 8 different substances are determined in the composition of the liquid, and the remaining laboratory analyses are obtained from the samples by centrifugation;
5. Toxic substances are isolated separately and added to a separate sample;
6. Therapeutic serum is prepared by processing experimental patterns on three different devices. This serum is a medicine for more than 10 different diseases and is used in the form of ointments and drops.

3. Results

The work of the Vietnamese doctor Hoang Xuan Ba is the most famous, where he studied earthworms for medical purposes and conducted scientific research. Having thoroughly studied and mastered the knowledge of Western and Chinese

medicine, he applied them to various diseases in Vietnam. Extensive, versatile clinical trials demonstrate the safety and health efficacy of products derived from red annelids. During clinical trial trials, the effectiveness of the obtained serum was determined for the following diseases: cuts, atherosclerosis, hypertension, seizures and epilepsy, malaria and elevated body temperature, infections of the hematopoietic system, acne, cough and problems in the genitourinary system.

The enzymatic activity in earthworm extracts was discovered in the 1970s by a well-known professor, Shang Hongren, as he reported at a scientific conference in 1978.

Recent scientific studies show that the enzymes that are most important are found in the serum of elongated earthworms. The work of Professor Shang is particularly interesting in the detection of these enzymes. Here are some of these active enzymes:

- Fibrinolysin;
- profibrinolysin activators;
- Collagenase.

It also produces a large amount of other digestive nutrients.

The serum drawn from earthworms is a medicine and can be used in the form of ointments and drops to prevent the following diseases, such as:

1. Rash in pregnant women;
2. Allergic rashes;
3. Asthma;
4. Herpes in young children;
5. Psoriasis;
6. Leishmaniasis;
7. Hepatitis A;
8. Hepatitis B;
9. Vitiligo;
10. Viral rashes;
11. It is used for alopecia and to increase immunity.

4. Summary and Conclusions

Interest in biologically active substances in medicine is currently increasing, and red earthworms are a unique source of such substances. Coelomic fluid contains many

therapeutic active enzymes, one of which is a fibrinolytic enzyme. It can dissolve blood clots in blood vessels, which allows treatment with earthworm preparations. Along with this, the serum contains: proteolytic, anti-aging effect, mitogen, immunogenic, lipopolysaccharide binders, cytolytic, hemoagglutinating, etc.

Earthworms contain many substances necessary for human health. These include stearic acid, palmitic acid, unsaturated fatty acids, phosphatides, cholesterol and others. The bodies of worm cells contain large amounts of carbohydrates, lipids, proteins, pigments and some alkaline amino acids.

A small amount of glucose, 0.01—0.05 micrograms/ml contain blood tissue and coelomic fluid of earthworms, but they contain a large amount of lipids, neutral fat (35.14%), glycolipids (41.74%) and phospholipids (23.12%). [5]

As can be seen from the substances listed above, they are among the most important substances necessary for the vital activity of the human body. These active substances are highly effective in the treatment of various human diseases.

REFERENCES

- [1] Ch.N. Vinogradskiy, *Pochvovedenie i biohumos: ucheb.-metod. Textbook for Higher Educational Institutions / Ch.N. Vinogradsky – Moscow: Medicine, 2018. - 168 p.*
- [2] Edwards, C.A. & Bohlen, P.J. , *Biology and Ecology of Earthworms: Educational Method. Handbook / London – Chaman & Hall, 1996- 218c.*
- [3] Leveld, P., Bignell, D., Lepage, M., Walters, W., Robert P., Maine, P., Hill, O.W., and Dhilion, S., *The role of soil function in changing the world as invertebrate ecosystem engineers. / Euro. J. Earth. Biol. 1997.*
- [4] *Evacuation of citizens and providing first aid to affected patients in the event of man-made accidents at chemical plants / Nurova Z.A. // Galaxy International Interdisciplinary Research Journal – 2022. Vol. 10 No. 11 (2022): GIIRJ.*
- [5] V.V. Kaurichev, *Soil Science: Educational Method. Textbook for Higher Educational Institutions / V.V. Kaurichev – Moscow: Medicine, 1998. 356 p. (in Russian).*