

The form and content of shift schedules, providing visibility and ease of use, are developed by the enterprise itself. However, calculations and distribution of working hours should be made on the basis of the requirements stipulated by the Labor Code.

References:

1. Tsvetkova ES, Romantsova TI, Runova GE, Beliaev NS, Goldshmid AE. The influence of shift work on metabolic health. Obesity and metabolism. 2019;16(3):11-19. doi: <https://doi.org/10.14341/omet10015>
2. 2. The Labor Code of the Republic of Uzbekistan. National Legislation Database, 05/11/2019, No. 03/19/536/3114, 05.24.2019, No. 03/19/542/317, 12/04/2019, No. 03/19/586/4106) /
3. 3. Kostuyina G.M. Flexible forms of employment: world experience and practice of Singapore // Work abroad. -2004.-No. 2.-S.95-110.
4. Gasanov M.Yu., Sarymsakova G.K. Legal regulation of working hours and rest time. Tutorial. - T.: IPTD LLC "Fuqarolik Zhamiyati" 2017. - P. 256.

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**RESEARCH OF ACUTE TOXICITY AND MEDIUM-DEATH DOSE OF TANNINS
OF RUMEX CONFERTUS WILLD.**

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The purpose of this study was to determine the acute toxicity and moderate lethal dose of tannins obtained from the roots and aerial parts of the *R. confertus* Willd plant. Determination of acute toxicity and the average lethal dose of the samples was carried out according to the method of Litchfield and Wilcoxon. As a result of the studies, the death of animals in the

studied doses did not occur. The tested drugs belong to the IV class of low toxic compounds. $LD_{50} \geq 5000$ mg / kg.

Keywords: diarrhoea, *Rumex confertus* Willd., acute toxicity, tannins, Litchfield and Wilcoxon method.

According to data from the World Health Organization (WHO) and UNICEF, around 2 billion cases of diarrheal disease are reported annually worldwide. Each year, 1.9 million children under 5 years of age die from diarrhea, mainly in developing countries. Every child under the age of 5 suffers on average three episodes of acute diarrhea per year. Globally in this age group, acute diarrhea is the second most common cause of death (after pneumonia), and the frequency and risk of mortality from diarrheal diseases is highest in this age group, especially in infancy - therefore, levels decrease gradually with age [1, p. 3].

In folk medicine, infusions, decoctions and herbal solutions are often recommended for the treatment of diarrhea. One of them is the plant *Rumex confertus* Willd (horse sorrel), widely distributed in Uzbekistan. According to the description of Avicenna, sorrel and its seeds are astringents and they fix in chronic diarrhea [2, p. 186]. The antagonistic and hemostatic effect of horse sorrel is explained by the content of tannins and vitamin K in it [3, p. 294].

The purpose of this study is to determine the acute toxicity of tannins obtained from the roots and aerial parts of the plant *R. confertus* Willd. (No. 1 and No. 2, respectively). The more thoroughly studied animal toxicity, the less adverse reactions can occur in clinical trials [4, p. 2].

The acute toxicity of samples No. 1 and No. 2 was determined by the Litchfield and Wilcoxon method on white mice, males, weighing 22 ± 2.0 g, 6 animals in each group [5, p. 85]. Studies were performed on healthy sexually mature animals (mice) that were quarantined for at least 10-14 days.

The test drugs were administered intragastrically, once with a special probe in doses from 1000 to 5000 mg / kg, in the form of a 10-18% solution. The animals were monitored hourly during the first day in the laboratory, while survival rates during the experiment, general condition, possible convulsions and death were used as indicators of the functional state of the animals. Then, every day, for two weeks under vivarium conditions, animals of all groups monitored the general condition and activity, behavior patterns, frequency and depth of respiratory movements, condition of the hair and skin, tail position, amount and consistency of fecal masses, and frequency of urination, change in body weight and other indicators. All experimental animals were kept in the same conditions and on a common diet with free access to water and food. At the end of the experiment, the

average lethal dose (LD₅₀) was calculated and the toxicity class was determined.

The study of the general effect of samples No. 1 and No. 2 showed that with the introduction of drugs in doses of 1000, 2000, 2500 and 3000 mg / kg, the general condition of the animals did not change, the frequency and depth of respiratory movements were within normal limits. With the oral administration of compounds No. 1 and No. 2 at doses of 4000, 5000 mg / kg, a slight tachycardia was observed for 20-25 minutes. As a result of the studies, the death of animals in the studied doses did not occur. The introduction of drugs in higher doses was technically impossible.

Table 1.

Acute Toxicity Results for Oral Mice

A drug Animal species How to enter	Animal sex	Dose mg / kg	The number of animals in the group	LD ₁₀ -m+m mg/kg	LD ₁₆ -m+m mg/kg	LD ₅₀ -m+m mg/kg	LD ₈₄ -m+m mg/kg
Sample No. 1 Mice Oral	Males	1000	6/0	-	-	≥5000	-
		2000	6/0				
		2500	6/0				
		3000	6/0				
		4000	6/0				
		5000	6/0				
Sample No. 2 Mice Oral	Males	1000	6/0	-	-	≥5000	-
		2000	6/0				
		2500	6/0				
		3000	6/0				
		4000	6/0				
		5000	6/0				

Thus, preparations No. 1 and No. 2 belong to the IV class of low toxic compounds. LD₅₀ ≥ 5000 mg / kg.

References:

1. Acute diarrhoea in adults and children / Global Practical Recommendations of the World Gastroenterological Organization (GGO), Reviewed by: Farthing M., Salam M. et al. February 2012.
2. Halmatov Kh. Kh., Usmonkhodzhaev A. Kh., Makhsumov MI, Akhmedov W. A. Atlas of medicinal plants of Uzbekistan. Tashkent, 2020. - 201 p.

3. Tlekhas G. I. Medicinal plants of the Orenburg region. Chelyabinsk, South Ural Book Publishing House, 1974. - 355 p. silt

4. Guskova T. A. Preclinical toxicological study of drugs as a guarantee of the safety of their clinical trials // Toxicological Bulletin, 2010. No. 5 (104), S. 2-6.

5. Belenky M. L. Elements of a quantitative assessment of the pharmacological effect // L. Medgiz, 1963. - 146 p.

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OUR EXPERIENCE ON SURGICAL TREATMENT OF PATIENTS WITH MULTIPLE ATHEROSCLEROTIC LESIONS OF CAROTID ARTERIES

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Abstract: The objective of study was improvement of results of surgical treatment of patients with bilateral atherosclerotic defeats of carotid arteries. Studied results of treatment of 180 patients with bilateral atherosclerotic defeats of the carotid arteries in 2014-2019 y. Patients were divided into the first (60 patients) and the second (120 patients) groups depending on tactic of surgical treatment. In the 1st group of patients: first stage of CEA performed on the side with greater degree of stenosis and on the side where stroke happened. Terms of CEA on the opposite side varied from 2 weeks till 2 years. Complications in the 1st group were (5.0 %). At patients of the second group was applied to revealing of carotid pool of primary importance. To 120 patients performed 200 carotid reconstructions. Performance terms of CEA on the opposite side varied from 45 days till 3 months. Total percentage of complications in the 2nd group was 1.7 %. It is important to do CEA stage by stage. According to our data it is ideal to perform CEA on the opposite side in period from 2 to 3 months.