EVALUATION OF ANTIBACTERIAL ACTIVENESS OF ABOVEGROUND LEVEL PART OF PORTULACA OLERACEA L.

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Aim. Scientists of pharmaceutical industry consider herbal plants as a good choice of getting herbal medicines, because, these natural resources struggle against wide range of antibiotic bacteria. Ingredients of medical plants are used in all parts of the world and has characteristics that are used against bacteria, viruses [1]. Utilization of antibiotic was realized from the lowest rate until the highest. In medical science main problem of appearing resistant bacteria comes from incorrect and overuse of antibiotics [2]. Considered urgent resistance of antibiotic has unlimited demand on new and effective therapeutic issues [3]. In this case, there will be need for producing alternative antibacterial medicines using herbals for curing infection related diseases. Portulaca Oleracea L. is considered as a member of Portulacaceae having more than 120 different types. Name Portulaca comes from Latin language "porto" and means "to carry" and "lac" which means milk due to the fact that plant involves milk juice, Oleracea from Latin language meaning "relating to yard" meaning it's use as a vegetable. Plant grows in yards Central Asia and also in all regions of Uzbekistan as useful plant. The use of this plant as a vegetable of medicine was popular from Ancient Egyptian times and in England within the period of MidCentury [4]. It is grown in India East and popular in Europe even nowadays.

Research methods. Dried Portulaca from yard was used as a material of research. 20 gr of plant material was mixed in bottle weighting 200 ml and was added in Soxhlet during 2-5 hours in temperature not increasing above boiling level. Used ingredients: water, methanol, ethanol, atseton, edit and geksan. Ingredients are mixed in 20% dimetil sulpoxide water in order to get ready mixture 100 mg/ml. Ingredients are kept in dark place in 4^0C temperature.

Antibacterial activeness was studied in diffusion method. Resistant bacteria was separated from different clinical examples, like, blood, liquid brain. These issues were identified on basis of their morphology, culture and biochemical characteristics and also regarding the test of sensitiveness of antibiotics. These all bacteria was resistant on more than 10 antibiotics. Antibacterial activeness of Portulaca was evaluated with various herbal examples, like, Staphylococcus aureus (ATCC-25923(004134)), Escherichia coli (ATCC-25922(004136)), Pseudomonas aeruginosa (ATCC-27853(004135)), Klebsiella pneumoniae, Proteus mirabilis, Salmonella spp., Enterococcus faecalis, Citrobacter freundii, Acinetobacter baumannii, Streptococcus pneumoniae, Enterococcus faecium and Enter. cloacae.

Description of antibacterial activeness of herbal medicine.

Diffusion method was used in order to study antibacterial effectiveness of not cleaned ingredients. During 15 minutes after correcting the mistake in culiat. Sterilised pain was turned into suspensias. Dried upper side of Mueller-Hinton plastin was widened to all bacteria. This is used approximately 6 mm for curing. 20% water dimeticsulfoxid was used as negative control. Procedure is repeated for other microorganisms. Plastin are kept in fridge during 2 hours for full cooling in the temperature of 37^0C during 24 hours. After incubation period diameter of each zone was calculated in millimetres.

Description of minimum ingredients.

In not cleaned ingredients minimum amount of each testing organism was provided in relation with diffusion method. Ingredient (100 mg/ml) in 20% dimetilsulphoxide is added in cleaned water (1:1) in order to reach decreasing level of ingredients of 50 mg/ml until 0.195 mg/ml. Volume of each 100 m kl standardized in culiat (106 KOE/ml). All testing cups combined aerobic on 37^0C temperature during 24 hours and controlled. Minimum using ingredients showed clear zones (8mm) was reached for each testing microorganisms [5, 6].

Research results. Research of antibacterial activeness of ground level Portulaca Oleracea L. showed clear zones of stopping against bacteria (Table №1). The lowest uses ingredients methanol extract consisted of 0,8 mg/ml used in relation with E.coli, S. aureus and S . pneumonia when providing concentration if 1.5 mg/ml controls S.typhi and E. faecalis (Table №2). Ethanol extract also showed good activeness in relation with bacteria.

Table №1

The antimicrobial activity of Portulaca oleracea L. against multiple drug resistant bacteria

Raw materials	The solvent	Zone of inhibition in mm											
		1	2	3	4	5	6	7	8	9	10	11	12
Leaves	Methanol	24	26	18	22	18	22	15	20	18	24	18	16
	Ethyl alcohol	18	20	14	18	14	16	14	18	17	22	16	14
	Petroleum ether	12	10	8	8	7	8	9	8	10	10	10	8
	Acetone	16	18	12	12	10	12	12	12	11	12	12	11
	n-Hexane	8	8	10	8	9	10	8	8	8	8	8	8

1-S.aureus; 2-E.coli; 3-P.aeruginosa; 4-K.pneumoniae; 5-P.mirabilis; 6-S.typhi; 7-E.faecalis; 8-C.freundii; 9-A.baumannii; 10-S.peumoniae; 11-E.faecium; 12-E.cloacae

Table № 2

Minimum inhibitory concentration of Portulaca oleracea L. against multiple drug-resistant bacteria.

The solvent	Minimum inhibitory concentration in mg/ml											
	1	2	3	4	5	6	7	8	9	10	11	12
Methanol	0.8	0.8	3.2	3.2	3.2	1.5	1.5	1.5	1.5	0.8	1.5	3.2
Ethyl alcohol	1.5	1.5	3.2	6,2	6,2	1.5	1.5	3.2	1.5	1.5	6,2	6,2

Conclusions. 1. Methanol extract from ground level Portulaca showed high activeness against microorganisms Staphylococcus aureus (23mm) and against bacteria and especially Pseudomonas aeruginosa (19 mm). This may be related with triterpenoid and cartinoid, steroid, cteon and triterpenoid. 2. Received results occurred to be similar to received S . Monroe and others. 3. Ethanol extract also showed good activeness in relation with tested bacteria. 4. Extract from ground level Portulaca can be seen as a resource for getting antimicrobial medicines.

Literature

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