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A Study of Extraction and bio-evaluation of (Tinosporcordifolia) Stem & leaves.

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Abstract :-

The water & ether extracts of Tinopor codifolia Stem & leaves were prepared- the total ash found to be 6.861. the leaves swhows dark yellow fluorescent colour with picric acid athe extracts were tested for some phytochemicals

Keyword:-TinosporaCordifolia,FlourescentTest,EtherExtraction,WaterExtraction, Antimicrobial activity,

INTRODUCTION :- The possibility of bioerrorism outbreak of severs acute respiratory syndrome (SARS) and Bird Flu Virus continuing spread of HIV/AIDS and emergence of resistant pathogenic strains against current medication compel investigators to look for new protective measure against these threats. Immune activation is an effective as well as protective approach against emerging infection disease (1). Tinospora cordifolia miors (Minispermaceie) is a glabrous climbing succulent shrub, commonly found in hedges. It is native to India, easily in the tropical region. It also occur Burma and Ceylon. It is widely used in Ayurvedic medicine in India as well as tonicuitalizer and as a remedy for diabetes mellitus and metabolic disorders, (2) The fundamental role of Innate immunity in host defense is becoming clearer as analysis of human genome continues to identify new genes serving innate immune function. The innate immune system deteuts to pathogens or the nonself inruders using specific receptors and responds immediately by activation of the immune competent cells synthesis of cytokins and chemokins and release of inflammatory mediators to eliminates to contain to introduces Innate immune activations immune response antigen- specific T & B lympocytes (3,4) Cytokines play crucial roles in requlating various aspect of immune response. Among cytokines interleakin IL-

12 plays a central role in co-ordinating innate and cell mediated adaptive immunity ,(5) Immune stimulation can provide both prophylalactic as well as postexposure protection (6). Dementia is a syndrome of failling memory and other intellectual functions with little or no disturbance in consciousness. Degeneration of the cerbral neurons is one of the commonest and vital causes for dementia with increasing age, there by leading to deterioration in quality of life in elderly. Hence a greater research is required in early diagnosis of the condition and development of newer effective drugs to prevent or halt the progression of the disease. This is possible by basic understanding of learning and memory process(7). Medicines derived from plants have played a pivotal role in health care of ancient and modern cultures. Ayurveda, the Indian system of medicine mainly uses plant based drugs or formulations to treat various ailments including cancer. Recent surveys suggest that one in three Americans uses dietary supplements daily and the rate of usage is much higher in cancer patients, which may be up to 50% of patients treated in cancer centers (8). Many synthetic or natural agents have been investigated in the recent past for their efficacy to protect against radiation damage.1 Among the natural radioprotective agents compounds, cystine, cysteamine, 5-hydroxytryptophan, 5-hydrox- ytryptamine, glutathione, and vitamins like A, C, and E2 have been extensively studied. Important synthetic molecules include amino-ethyl-isothiouronium bromide hydrobromide (AET), WR-272 1. However, the inherent toxicity of these agents at the radioprotective concentration warranted further search of a safer and effective radioprotector. To reduce toxicily, a strategy of combining radioprotective molecules working through different modes of action has also been attempted.3 In fact, no radioprotective agent now available, either singularly or in combination, meets all the requisites of an ideal radioprotector.4 Recently several isolated plant products and crude extracts that may have a natural combination of several bio-active molecules capable of giving radioprotection through different mechanisms, have been investigated (9).

EXPERIMENTAL:- Fresh healthy leaves and stem of Tinospora cordifolia were collected from Himayathbag Hudco Corner, Aurangabad.They were washed throughly with distilled water and dried in shade for seven day followed by grinding to make powder of the same size and stored in air tight bottles.

Total Ash:- About 10 g of powdered leaves & stem was accurately weighed and taken in a silica crucible, which was previously ignited and weighed. The powder was spread as a fine, even layer on the bottom of the crucible. The crucible was incinerated gradually by increasing temperature to make it dull red hot until free from carbon. The crucible was cooled and weighed. The procedure was repeated to get constant weight.

Acid Insoluble Ash:- The ash obtained as described above was boiled With 25 ml of 2N HCI for five minutes. The insoluble ash was collected on an ash less filter paper m and washed with hot water. The insoluble ash was transferred into a silica crucible, ignited and weighed. The procedure was repeated to get a constant weight

Water Soluble Ash: The ash obtained as described in e determination of total ash was boiled for 5 minutes with 25 ml of water. The insoluble matter was collected on ash less filter paper and washed with hot water. The insoluble ash was transferred into silica crucible, ignited for 15 minutes, and weighed. The procedure was repeated to get a constant weight. The weight of insoluble matter was subtracted from the weight of the total ash. The difference of weight was considered as water-soluble ash The result of total ash, acid insoluble ash, water soluble ash and other physical param eters of Tinospora cordifolia leaves are summarized in table 1.

Antimicrobial Activity:- Antimicrobial activity of Tinospora plant was determined against bacterial strain, salmonella typnis Escherichia Coil, Staphy Lococcus acereus Bacillus subtilis by well diffisio assay on agarr plate.The bacterial culiure were grown on nutrient broth for 24 hrs. The activity grown cullirs were spread on nutrient agar plates by spread plate method well was prepared by brose - 20 □ liter sample was poured in the well. Strcptomycine antibiotic is used as standard 100 mg 1 ml concentration.

WATER EXTRACTION:- 10 gm of sample (Tinospora plant) was taken in round bottom flask. 35ml of distilled water was added. water condenser was arranged. Refluxed for 3 hrs after complite heating the water extract was cooled. solution was filtrated throught whatman paper No. 41Residue was dried and weight was took and water soluble compound was calculated.

ETHER EXTRACTION:- 10 gm of leaves & stem sample was taken Tinospora plant (10 gm each) was extracted using Round bottom flask, soxhlet apparatus was arrenged. The extracts

were to dried to yield crude residue. The extracts were auto-calved and stored at 4^0c until further use. ether soluble compound was calculated.

RESULT & DISCUSSION : In study of three crude extracts of leaves and stem of tinospora Condifolia have been investigatged, aqueous either and water extraction were tested for their total flauonoid contents microbial activity performed by using assay of reducing powder of Tinospora plant.

Table No. 1 Percentage of ash

Sr. No.	Sample (ash)	Percentage
1.	Total Ash	6.86%
2.	Water Soluble	30.07%
3.	Acid InSoluble	62.02%

Table No. 2 Percentage of Extraction

Sr. No.	Extraction	Percentage
1.	H_2O Extraction	42.00%
2.	Ether Extraction	17.30%

Table No. 3 Colour Test

Sr. No.	Colour Test	Colour
1	Powder as Sample	Green
2	Powder +1N NaOH	Reddish Yellow
3	Powder +1N HCl	Dark Cream
4	Powder + 5% KOH	Brown
5	Powder + 50% H_2SO_4	Blackish Brown
6	Powder + 50% HNO_3	Pale Yellow
7	Powder + Conc. HNO_3	Orange
8	Powder + Acetic Acid	Yellowish Green

9	Powder + Conc. H_2SO_4	Reddish Brown
10	Powder + Picric Acid	Dark Yellow Fluorescent
11	Powder + Conc. HCl	Light Yellow

Table No. 4 Phytochemical Test

Sr. No.	Phytochemical Test	Water Extraction	Ether Extraction
1.	Alkolaied	+ve	-ve
2.	Saponins	-ve	+ve
3.	Fluonaid	+ve	+ve
4.	Terepens	-ve	-ve
5.	Tannins	-ve	+ve

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