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Research Article

IN VITRO ANTIMICROBIAL ACTIVITY OF PACHAI KARPOORA MATHIRAI

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Abstract

Siddha system of medicine is most ancient system of medicine and it was found by siddhars before thousands and thousands of years ago. This scientific paper evaluate antimicrobial activity of Pachai karpooora mathirai which is indicated to treat veppusuram and thabasuram. Anti microbial activity is evaluated by agar disc diffusion (Kirby–Bauer) method.

Keywords: Siddha drug, suram, pachai karpooora maathirai, antimicrobial activity.

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Introduction

Fever is classified into many types according to the literatures. The world is full of microorganisms, the vast majority which are harmless to man and many of which are essential to life. Some of this organisms live on or within hosts, most of these form part of our normal flora and are benign passengers or symbiotes. A minority are pathogenic causing illness or even death to their host. Among this types veppusuram and thabasuram affects the children and cause severe embasement. So authors of this paper

highlight the antimicrobial activity of Pachaikarpoooramaathirai.

Standard operating procedure for preparation of pachai karpooora maathirai

The required drugs for preparation of pachai karpooora maathirai are purchased from a well reputed country shop and medicine is purified and prepared in the form of pill which was dried in proper sunlight.

Ingredients

Pachaikarpooram (Borneo camphor)
 Lavangam (*Syzygium aromaticum* L.)
 Saathikkai (*Myristica fragrans* houtt)
 Rasapathangam
 Gandhagam (sulphur)
 Vaalam (*Croton tiglium* L.)

Preparation

The above said drugs are grind with aloe vera juice and made as a black gram sized pill.

Materials and Methods

Antibacterial Activity Procedure:

Test Organism:

The test microorganisms used for antimicrobial analysis *Staphylococcus aureus* MTCC737, *Bacillus subtilis* MTCC 441, *Streptococcus mutans* MTCC 890, *Proteus vulgaris* MTCC 426, *Klebsiella pneumonia* MTCC 530, *Escherichia coli* MTCC 443, were purchased from Microbial Type Culture Collection and Gene Bank (MTCC) Chandigarh. The bacterial strains were maintained on Nutrient Agar (NA) and fungi on Sabouraud Dextrose Agar (SDA).

Nutrient Broth Preparation

Pure culture from the plate were inoculated into Nutrient Agar plate and sub cultured at 37°C for 24 h. Inoculum was prepared by aseptically adding the fresh culture into 2 ml of sterile 0.145 mol/L saline tube and the cell density was adjusted to 0.5 McFarland turbidity standard to yield a bacterial suspension of 1.5×10⁸ cfu/ml. Standardized inoculum Used for Antimicrobial test.

Antimicrobial Test:

The medium was prepared by dissolving 33.9 g of Muller Hinton Agar Medium (Hi Media) in 1000 ml of distilled water. The dissolved medium was autoclaved at 15 Lbs pressure at 121°C for 15 min (pH 7.3). The autoclaved medium was cooled, mixed well and poured onto 100 mm petriplates (25 ml/plate) the plates were swabbed with Pathogenic Bacteria culture viz. *S.aureus*, *B. subtilis*, *S. mutans*, *P. vulgaris*, *K. pneumoniae*, *E. coli*. Finally, The Sample or Sample loaded Disc was then placed on the surface of Muller-Hinton medium and the plates were kept for incubation at 37°C for 24 hours. At the end of incubation, inhibition zones were examined around the disc and measured with transparent ruler in millimeters. The size of the zone of inhibition (including disc) was measured in millimeters. The absence of zone inhibition was interpreted as the absence of activity (Kohneret al., 1994; Mathabeet al., 2006). The activities are expressed as resistant, if the zone of inhibition was less than 7 mm, intermediate (8-10 mm) and sensitive if more than 11 mm (Assam et al., 2010)

Results

S.No	Organisms	Zone of inhibition (mm)	Positive control Streptomycin
1	<i>Klebsiella pneumoniae</i>	25	20
2	<i>Bacillus subtilis</i>	15	15
3	<i>Staphylococcus aureus</i>	14	20
4	<i>Streptococcus mutans</i>	10	22
5	<i>E.coli</i>	8	20
6	<i>Proteus vulgaris</i>	8	20

Conclusion

The findings of present research work revealed the antimicrobial activity of pachai karpooora maathirai which is indicated to treat veppusuram and thabasuram. From the observation of zone of inhibition it was concluded that the test compound was highly effective against *Klebsiella pneumoniae* with maximum zone of inhibition of about 25mm. This is the only preliminary study and more work has to be carried out to explore the wonderful properties of this drug.

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