ANTIMICROBIAL ACTIVITY OF AYURVEDIC TABLET “HADRABI”
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ABSTRACT: The Ethanollic extract of “Hadrabi” powder was tested for antimicrobial activites against gram positive organisms-Staphylococcus aureus, Bacillus subtilis, Clostridium perfringens and gram negative organisms-Pseudomonas aeruginosa, Salmonella paratyphi –B, Escherichia coli & Klebsiella pneumoniae Significant antimicrobial activity of the extract was found in this study at the dose of 1250 mg.

INTRODUCTION:

There are many aliments for which suitable and safe drugs are not available in modern medical system especially when treatment is to be continued for long period. Taking this fact in to account “Hadrabi tablet” is prepared which is useful as a broad spectrum bio-microbicide and best immunomodulator that restores powerful antibodies action and there by improves resistance to the diseases of respiratory tract, urinary tract, skin and soft tissue, bone of joint, and viral, bacterial, fungal protozoal infection.

The present investigation was undertaken to test the antimicrobial activity of ethanolic extract of “Hadrabi” powder against some gram positive and gram negative bacteria.

MATERIALS AND METHODS:

“Hadrabi” tablet is composed of ingredients form the nine different herbs such as Artemisia Absinthium, Lapadium sativum, Nigella sativa, Saliva spinosa, Protulacea oleracea, Thymus serphyllum, Astergulus funnifera, Trigonella foenium, Pegraum harmal. Microfine Pulvarization and trituration of the herbs have been adopted for processing the compound so that dose of crude drug is brought down at the same time taking in to account that all its natural properties are retained besides active principles and also other important constituents like aromatic substance, resin, gum, Sugar, Vitamin, inorganic salts which provide synergistic effect to drug.

PREPARATION OF EXTRACT:

The powder was extracted in soxhlet extraction apparatus with distilled ethanol for 18 hrs and the solvent was removed under vacuum on rotary evaporator to yield a crude extract. This extract was tested for antimicrobial activity on various microorganisms like S. aureus, B.Subtilis. Clostridium perfringens, P.aeruginosa, S. Paratyphi –B, E. Coli and K. Pneumoniae.

DETERMINATION OF ZONE OF INHIBITION:

The test solution of extract was prepared by dissolving 1250mg of the extract in 0.6mi of sterile water. Solution of Chloramphenicol
(200 ug/ml) was prepared and used as a standard. Blank was performed in both cases for vehicle used.

Antimicrobial activity was tested by cup-plate technique using 24hr old culture of seven test organisms. The test organisms were seeded in to sterile nutrient agar medium by uniform mixing. 0.1 ml of the inoculum was mixed with 10ml sterile melted nutrient agar cooled to 40-450 C in the sterile petriplates. After the agar has solidified, wells were cut using sterile borer (13mm in diameter). Solution of each test standard and blank was added aseptically into the different wells cutted in nutrient agar plates these plates were incubated at 37 °C for 24 hrs and the zone of inhibition were measured.

RESULTS AND DISCUSSION:

Results of antimicrobial screening of ethanolic extract of “Hadrabi” tablet powder were measured in terms of zone of inhibition (table 1) and photographs of same (1to 7)

From the study it is revealed that the ethanolic extract shows maximum antimicrobial activity on the above mentioned gram positive and gram negative bacterias at 1250mg. the effect of this extract was found to decease in the following order against different test organisms. S. aureus, Cl. Perfringens, K. Pneumoniae, E.Coli, S. Paratyphi-B, B. subtilis, P. aeruginosa.

### TABLE 1

**Antimicrobial Screening of extract of “Hadrabi” tablet in terms of Average Zone of inhibition.**

| S1. No. | Test Organisms          | Average zone of inhibition (mm) |
|---------|-------------------------|---------------------------------|
|         |                         | Text   | Standard | Blank  |
| 1.      | Staphylococcus aureus   | 23.3   | 17.33    | 00     |
| 2.      | Escherichia coli        | 14.0   | 22.00    | 00     |
| 3.      | Klebsiella pneumoniae   | 17.3   | 19.33    | 00     |
| 4.      | Pseudomonas aeruginosa  | 12.3   | 10.66    | 00     |
| 5.      | Bacillus subtilis       | 12.6   | 27.00    | 00     |
| 6.      | Salmonella paratyphi - B| 12.6   | 10.67    | 00     |
| 7.      | Clostridium perfringens | 21.0   | 10.33    | 00     |

* zone of inhibition=Total zone of inhibition-borer diameter (13mm)
1. *Staphylococcus aureus*

2. *Escherichia coli*

3. *Klebsiella pneumoniae*

4. *Pseudomonas aeruginosa*
5. *Bacillus subtilis*

6. *Salmonella paratyphi* – *B*

7. *Clostridium perfringens*