



Antimicrobial Activity of *Agaricus compestris* Linn.

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Abstract:

Since the beginning of the antibiotics era over 25 years ago, a large number of antimicrobial agents have been introduced into medical practice. Although some of the antibiotics first developed are still the preferred agents for specific infections, newly developed antibiotics have found a place in modern therapy by virtue of their increased antimicrobial activity or by fulfilling specific therapeutic needs. Increasing resistance to the present allopathic medicines and emergence of new viral diseases like dengue and chicken guinea which if untreated can be life threatening. In this phytomedicines with antimicrobial activities are of real help, but requires lot of scientific screening to establish them as safe and effective antimicrobial agents. Presented study throws light on antimicrobial activity of hydrochloric extract. The powdered material of *Agaricus compestris* was extracted in a Soxhlet apparatus by charging (1000g) and successive hot continuous extraction was carried out using petroleum ether (60-80°C), benzene, chloroform, acetone, rectified spirit and hydroalcohol (50:50). Only hydroalcoholic extract showed the antimicrobial activity against *Staphylococcus aureus* (+) and *Escherichia coli* (-). The other extracts did not show any antimicrobial activity.

Keywords: Antimicrobial, *Agaricus campestris*.

Introduction:

In the present Investigation, attempts were made to study detail phytochemical parameters and pharmacological activity particularly antimicrobial Activity of *Agaricus compestris* Linn belonging to phylum Basidiomycota.

Recently, as numbers of herbal product are being introduced in the market it has become imperative to scrutinize herbal product for evaluating their acclaimed properties, this priority is necessary and important as a large section of Indian population utilizes such product without having access to the scientific data.

Since the beginning of the antibiotics era over 25 years ago, a large number of antimicrobial agents have been introduced into medical practice. Although some of the antibiotics first developed are still the preferred agents for specific infections, newly developed antibiotics have found a place in modern therapy by virtue of their increased antimicrobial activity or by fulfilling specific therapeutic needs. Increasing resistance to the present allopathic medicines and emergence of new viral diseases like dengue and chicken guinea, Larvicidal, antifungal, emetic, cardiovascular action, which if untreated can be life threatening. In this phytomedicines with antimicrobial activities are of real help, but requires lot of scientific screening to establish them as safe and effective antimicrobial agents.

Experimental:

Presented study throws light on antimicrobial activity of hydrochloric extract. The powdered material of *Agaricus compestris* was extracted in a Soxhlet apparatus by charging (1000g) and successive hot continuous extraction was carried out using petroleum ether (60-80°C), benzene, chloroform, acetone, rectified spirit and hydroalcohol (50:50).

Method for antimicrobial activity:

The antimicrobial activity was determined using filter paper disc method. The extracts were completely dried at normal conditions and were dissolved in DMSO. The stock solutions of each extract were prepared by diluting it with purified water (500 µg/ml). The filter paper discs impregnated with plant extracts were aseptically and carefully placed on the nutrient agar plates. The discs soaked with antibiotic solutions were

also placed on nutrient agar plates as standards. All the nutrient agar plates were incubated at 37°C for 24 hours after which the plates were observed for clear zone of inhibition. The observations are as follows

Observations:

Antimicrobial activity of different extracts

Sr. No	Test Drug	<i>Staphylococcus aureus</i> (+)	<i>Bacillus subtilis</i> (+)	<i>Escherichia coli</i> (-)	<i>Proteus vulgaris</i> (-)
1.	Streptomycin std.			+++	+++
2.	Amoxycilin std.	+++	+++		
3.	Ether extract	-	-	-	-
4.	Benzene extract	-	-	-	-
5.	Chloroform extract	-	-	-	-
6.	Acetone extract	-	-	-	-
7.	Rectified spirit	-	-	-	-
8.	Hydroalcoholic extract	+++	-	+++	-

Results:

Only hydroalcoholic extract showed the antimicrobial activity against *Staphylococcus aureus* (+) and *Escherichia coli* (-). The other extracts did not show any antimicrobial activity only.

Applications:

The work presented here is a small attempt to evaluate the drugs. This is a small contribution of scientifically utilizing these natural products. It is hoped that such type of studies will reclaim our faith in natural products and traditional medicines so that it will add novel drugs in our armory to fight various diseases. The WHO dream of providing health for all would only be achieved by a systematic knowledge and study of traditional medicines and tribal medicines.

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