RESEARCH PAPER

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Screening and characterization of ethnopharmacological properties of selected flowers and spices against *Candida albicans*

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60 pus samples collected from Coimbatore Medical College (CMC) were processed for the isolation of *Candida albicans*, among which 24 (40%) were found to be positive. Anticandidal susceptibility pattern revealed that the strains were highly sensitive to fluconazole, ketoconazole; moderately sensitive to clotrimazole and but resistant to nystatin. When the same strains were evaluated for their susceptibility towards aqueous and diethyl ether herbal extracts from *Allium sativum, Punica granatum, Syzium aromaticum* and *Cassia auriculata* the results were interesting that they are highly sensitive. The maximum inhibition was found to be 49 mm with *Punica granatum* followed by 29mm with *Allium sativum*. The GC-MS analysis of both the extracts revealed the bioactive principles responsible for anticandidal activity.

Key words : *Allium sativum, Punica granatum, Syzium aromaticum, Cassia auriculata, Candida albicans*.

INTRODUCTION

There is an exigent need for the development of indigenous alternative antimicrobial molecules for the effective treatment of some serious diseases in the light of growing cases of microbial resistance to the time-honored antibiotics (Anand *et al*., 2008). Plants having medicinal property have been a major source of therapeutic agents for alleviation or complete cure of much human disease since times immemorial.

Although hundreds of plant species have been tested for antimicrobial activity, the vast majority has not yet been adequately evaluated (Cox and Balick, 1994). Plants are rich in a wide variety of secondary metabolites, such as tannins, alkaloids and flavonoids, which have been found *in vitro* to have antimicrobial properties.

Candidiasis is the commonest fungal disease found in human affecting mucosa, skin, nails and internal organs of the body. This is caused by several species of yeast like fungi belonging to genus Candida with *Candida albicans* as the representative species (Navarathna *et al.*, 2005).Plant produced compounds are of interest as a source of safer or more effective substitutes for synthetically produced antimicrobial agents (Cowan,1999). *Cassia* spp. finds number of application in controlling skin infections. The antimicrobial activity of *Cassia auriculata* L. has been reported against *Bacillus subtilis, Escherichia coli, Klebsiella pneumoniae* and *Proteus vulgaris* (Duraipandiyan and Ignacimuthu, 2000; Sivakumar *et al*., 2005).

Pomegranate (*Punica granatum*) has long been used as a natural intestinal parasite killer.Its pathogen fighting abilities have now begun permeate the medicinal literature. Pomegranates can inhibit numerous strains of bacteria and fungi. Garlic (*Allium sativum*) is one of the oldest, traditional and most widely used herbs through out the world. It is used as medicine and considered as antihyperlipidemic, antithrombotic, antibiotic, antiviral, antifungal and antihypertensive etc. Cloves are most famous for its antiinflammatory activities. Since previous reports highlights the antibacterial activity of these extracts, currently analyzed for the anticandidal activity.

MATERIALS AND METHODS

Collection of sample:

Vaginal and pus samples were collected in a sterile container from CMC and processed in Microbiological Laboratory to identify the etiological agents.

Culturing of Candida albicans:

The sample was microscopically examined and cultured on Mueller Hinton agar, Blood agar and Candida medium, then incubated at 37°C for 24 hours. Microscopic and macroscopic examination of budding yeast cell, germ tube, sugar fermentation, creamy colonies on Sabouraud's