INTRODUCTION

Candidiasis is the common fungal infection present in humans affecting mucosa, skin, nails and internal organs. Candidiasis caused by different species of yeast like fungi belonging to genus candida. The infection may be acute, chronic, superficial and deep and its clinical spectrum is wide, it is found mainly as secondary infection in individuals with some immunocompromised condition and very rarely as the primary disease.

The candida genus belongs to the phylum fungi and imperfecti the order moniliales and family Cryptococcaceae. Twenty of these species are considered as significant pathogens causing various infections in human being and out of twenty the eleven are well known opportunistic pathogens i.e. Candida albicans, C. tropicalis, C. glabrata, C. krusei, C. guilliermondii, C. parapsilosis, C. lusitaniae, C. kefyr, C. rugosa, C. dubliniensis, C. viswanathii.

Oral candidiasis is a general fungal infection affecting patients suffering from cancer. From last few years an incidence of 7.2–52% has been reported depending on treatment interventions and the stage of the malignancy. Majority of oral candidiasis infections are due to Candida albicans but non-albicans strains such as C. tropicalis and C. glabrata have increasingly been implicated in causing disease.

Patients often having asymptomatic yeast carriage to oral candidiasis found with white pseudomembraneous plaques (thrush) or erythematous ulcerations. Cell-mediated host immunity plays an most common important role in the control of fungal infections and cytotoxic chemotherapy, malignancies are known to compromise and predisposing a person to infections due to fungi.

Oral candidiasis contributes considerably to morbidity when it found with pain and burning leading to subsequent weak nutrition or even invasive infections esophagitis, candidemia. Other risk factors that promote development of this oral condition infection include diabetes; apply of broad spectrum antibiotics, corticosteroids, H.I.V, and organ transplantation.
The incidence of oral candida colonization and infection amongst different cancer patients groups, with majority of them is having focused on single cancer populations, head and neck cancer.

The epidemiology of oropharyngeal candidiasis between different cancer groups and types, centers have reported an increase in resistance to first line anti-fungal agents such as fluconazole in Candidiasis, due to the widespread apply of these agents as prophylaxis in neutropenic cancer patients. Initial detection and identification of fungal pathogens infection for targeted antifungal therapy is of paramount importance.

The virulence factors expressed by candida spp. to cause infections may vary depending on the type of infection, the site and stage of infection, the nature of the host response. One of the important factors contributing to the virulence of candida spp. is the formation of surface-attached microbial communities called “biofilm”.

Biofilms are defined as structure microbial communities that are attached to a surface, encased in a matrix of exopolymeric material. A typical lab fungal model of biofilm formation involves two operational steps: (a) adhesion (b) biofilm growth and maturing and has 3 distinct developmental phases: A. early (0-11 h) B. intermediate (12-30 h) and C. mature (38-72 h). The detailed structure of mature Candida albicans biofilms consists of a dense network of yeast, hyphae and pseudohyphae.

The advantages of forming biofilm take in protection from the environment, nutrient availability, metabolic cooperation and acquisition of new traits. This is of specific significance since it is now estimated that a significant proportion of totally human microbial infections involve biofilm formation. It has been estimated that some 65% of all human microbial infections involve biofilms. Biofilm formation and helps the organism to evade host defences, exist as a persistent source of infection and grow resistance against antifungal agents. Candida species are frequently found in the normal micro biota of human and which facilitates their encounter with most implant biomaterials and host surfaces. The resistance of biofilm producing Candida spp. to antifungal agents represents a major challenge especially in the design of therapeutic and prophylactic strategies. This factors constitute a clinical problem, resulting in high mortality as well as financial problem due to prolonged hospital stay.
The role of bacterial biofilms in disease has been investigated in detail over a number of years, considerable the literature is available on their structure and properties. However, sufficient the literature is hard to find on medically relevant fungal biofilms particularly, in the prevailing scenario where immune-compromised situations and nosocomial infections are on the rise. Consequently further recognition and understanding of candida biofilms is of most important importance in the study of human candidiasis. Therefore this study aims to make available insights on various aspects of Candida biofilms and role in pathogenesis.

This is of particular significance since it’s estimated and that a significant proportion of all human microbial infections involve biofilm formation\textsuperscript{[20 21]}. Transplantation procedure, immunosuppression, the use of chronic indwelling devices, prolonged intensive care unit (I.C.U) stay increased the prevalence of fungal infections. Fungi most commonly associated with such disease are in the genus \textit{Candida}\textsuperscript{[22]}. The emergence of antifungal resistance within Candida spp., particularly in cancer patients and requires regular investigations into antifungal resistance which will help us, get an updated knowledge about their antibiotic resistance pattern, may help the physician in selecting antibiotics for empirical therapy. In this study, an attempt has been made to study the spectrum of candida species, determine susceptibility pattern of four antifungal agents against the Candida spp. isolated from cancer patients with oropharyngeal candidiasis.