

INCIDENCE OF CANDIDA *ALBICANS* AND NON *ALBICANS* INFECTIONS IN HOSPITALIZED PATIENTS IN AMRAVATI

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Abstract: The high incidence of pathogenic yeasts throughout the world and importance of candidiasis in human pathology lead to the necessity of new information regarding its real incidence, etiology and clinical pathogenic correlation. Therefore, the present investigation was undertaken. 100 different oral specimens were studied. 93 were culture positive and the isolation rate was found to be 93.00%. The isolation rate was higher in male than female patients. The organisms isolated in majority included *C. albicans* and non-*albicans Candida* followed by *Cryptococcus* species.

Out of total 83 samples from male 78 (93.97%), while from female out of 17 samples 15 (88.21%) were found to be positive for pathogenic yeasts. *C. albicans* was the major organism 53.33% in female and 70.5% in male, followed by non-*albicans Candida* species. Age from 31 to 50 years shows maximum incidence.

Introduction

Candidiasis and Cryptococcosis are the world wide infections caused by pathogenic yeasts. The incidence of pathogenic yeasts was being studied in many parts of the world. Candidiasis has become the most common infection in AIDS and cancer patients.

A number of conditions can lead to *Candida* infections. Steroid drugs (such as cortisone), birth control pills and the long term use of antibiotics can invite the problem of candidiasis. Poor nutrition and impaired immune system are the main conditions of infection. The infections of pathogenic yeasts are oral thrush, vaginal thrush, infection, nail infection and allergies. The incidence of fungal infections has increased greatly over the past two decades (Wheat, 1994). Therefore the use of antifungal agents has increased dramatically and the new ones have also been developed.

Besides *Candida albicans* other non-*albicans Candida* species include *C. guilliermondii*, *C. krusei*, *C. glabrata*, *C. tropicalis*, *C. pseudotropicalis*, and also the species of *Cryptococcus* reported from oral thrush clinical specimens. Therefore, the present investigation was undertaken. 100 different clinical samples from oral thrush were studied.

Material and Methods:-

A total 100 oral thrush samples received from hospitalized patients in Amravati the samples were directly inoculated on Sabouraud dextrose agar tubes and incubated at 37°C for 24-48 hrs and 72 hrs *Candida* isolated were identified according to standard microbiological procedure (Evans, 1989). Speciation of *Candida* isolates were carried out by using germ tube test, Sabouraud dextrose agar, carbohydrate assimilation and fermentation test. (Koneman E. W. and Roberts G. D. 1985).

Results and Discussion

A Total of 93 *Candida* positive isolates were obtained from 100 oral thrush samples received from hospitals, of Amravati city. Out of the 100 samples, 83 were male and 17 were female patients. Positive culture were 78(93.97%) male and 15 (88.21%) from, the isolation rate was 93%.

Candida albicans, was the predominant organism,(70.5%M,53.33%F) followed by *C.tropicalis*(5.1%M,13.33%F),*C.glabrata* (5.1%M,13.33%F),*C.krusei*(5.1%M), *C.guillermundii*(5.1%M), *C.pseudotropicalis*(1.28%M,6.66%F), and other pathogenic yeast was *Cr. neoformans*(7.79% M,13.13%F).

table 1:- age-wise distribution of candidiasis

Age	12-30	31-50	51-60	>60	Positive(+)	Negative
Male	16(20.51%)	42(53.84%)	7(8.97%)	13(16.6%)	78(93.97%)	5(6.2%)
Female	06(40%)	06(40%)	1(6.66%)	2(13.33%)	15(88.21%)	2(11.76%)

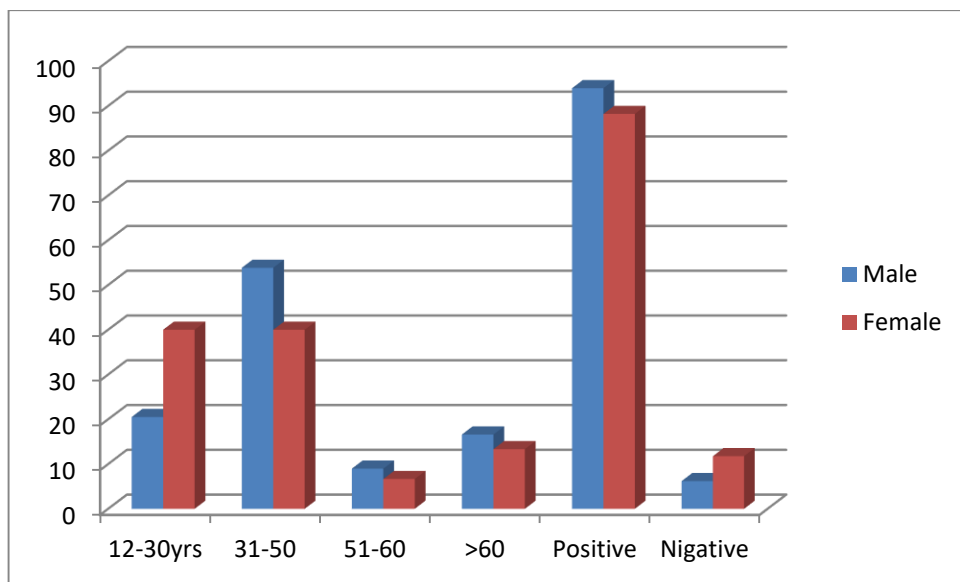


fig. 1.1:- graphical data for age-wise distribution of candidiasis.

table2 :- distribution of pathogenic isolates in oral thrush.

Isolates	C.albicans	c.tropicalis	c.psuetropacalis	c.glabrata	c.krusei	c.gullermendi	cr.neofarmus
Male	55(70.5%)	4(5.1%)	1(1.28%)	4(5.1%)	4(5.1%)	4(5.1%)	6(7.69%)
female	8(53.33%)	2(13.33%)	1(6.66%)	2(13.33%)	0	0	2(13.13%)

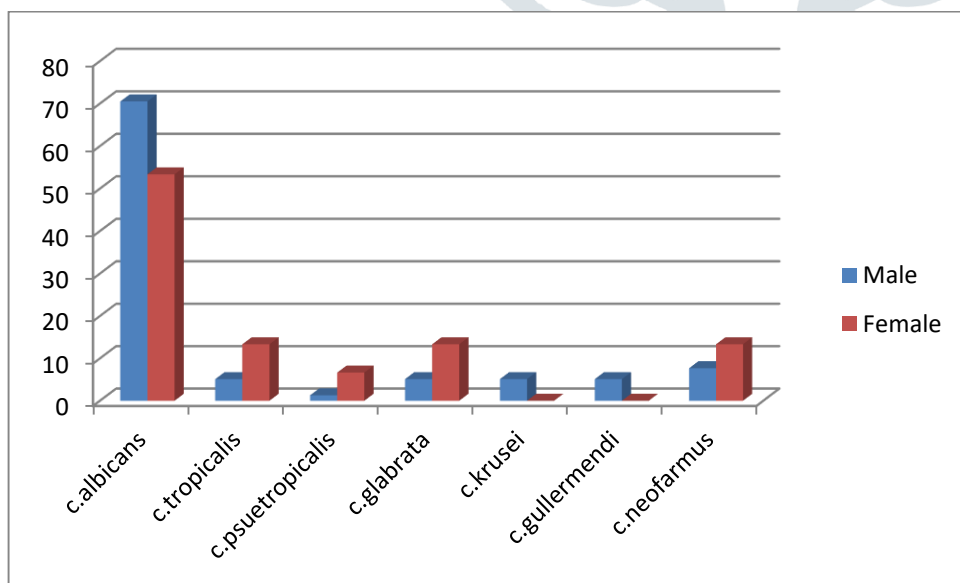


fig. 2.1:- distributions of pathogenic isolates in oral thrush.

The high incidence of pathogenic yeasts throughout the world, have been reported by NG et al. (1998) as 82.1% while Abu-Elteen et al. (2001) reported isolation rate of 48.4% during 1994-96 and 50.4% during 1999-2001. They also reported that *C. albicans* was the predominant organism with 51.3% during 1994-96 and 35.6% during 1999-2001.

The present study reports show lower incidence than the reports of other workers such as Abu-Elteen et al. 2001 (51.3%), Costa et al. 2000 (50%), Weems, 1992 (50%), St. German et al., 2001 (55%) while high incidence was reported by Farina, 2001 (66.6%) and Bornstein, 2001 (68.4%). In the present study pregnant women isolates were mostly *Candida* positive.

C. guilliermondi prevalence was observed in present study (5.1%). Comparatively lower incidence was reported by other workers as 0.2% (NG et al. 1998), 2.4% (Prasad et al. 1999), 3% (Kurnatowskii et al. 1999) from various clinical specimens.

C. krusei was predominantly recovered from oral thrush (5.1%) from male patients only. Lower incidence have been reported by NG et al. 1998 (1.2%), Prasad et al. 1999 (4.9%) and St German et al. 2001 (3%).

NG et al. (1999) reported 9.6% incidence of *C. glabrata*, Prasad et al. (1999) reported 3.7% incidence, while Kauffman et al. (2000) had reported 15.6% incidence of *C. glabrata* from hospitalized patients. Present study reports are 4(5.1%) in male and 2(13.33%) in female., which are in accordance with NG et al. (1999) while slightly higher incidence was reported by Kauffman et al. (2000).

66% incidence of *C. tropicalis* reported by Mathews et al. (2001) from India and 13% incidence was reported by Weinberger (2001), while 17.7% incidence was reported by NG et al. (1998), and 35.41% incidence reported by Prasad et al. (1999). In the present study 5.1% from male and 13.33% from female, which is much less than other workers.

Cryptococcus neoformans infection which is the another pathogenic yeast was isolated in this study. 7.69% in male and 13.13% in female was positive cases Khatib et al.(2001) reported 0.8% incidence of *Cr. neoformans* from fecal matter, while high incidence (87%) was reported by Tintelnot et al. (2001) from C.S.F. and blood. The incidence of *Cr. neoformans* in the present study was higher than Kantarcioglu et al. (2001) and lower than Tintelnot et al. (2001).

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