

## CLINICAL PATTERNS OF CANDIDA INFECTIONS IN BOMBAY

PRATIBHA J. DALAL AND S. S. KELKAR

### Summary

One hundred consecutive cases of candidiasis in Bombay were studied. In each case the clinical suspicion was confirmed by isolation and typing of the *Candida* species. The clinical pattern was as follows; vulvo-vaginitis 30%; intertrigo 18%; onychia and paronychia 12%; oral thrush 16%; generalised cutaneous candidiasis 8%; enteritis 3%; bronchitis 12% and urinary tract infection 1%. When compared to a study carried out in Bombay in 1966, there was an increase in the frequency of disseminated cutaneous candidiasis and a reduction in the cases of intertrigo and onychia and paronychia.

The genus *Candida* includes a number of species pathogenic to man. Although the principle pathogenic species is *Candida albicans*, others have been incriminated in human diseases<sup>1</sup>. *Candida* commonly cause mild cutaneous infections in our warm, moist and humid localities. However, *Candida* species are becoming increasingly important as opportunistic pathogens<sup>2,3</sup>. The common clinical varieties are legion and patterns of disease due to *Candida* are likely to change because of several factors. A study aimed at defining the current frequency of various varieties of *Candida* infections is being reported.

### Materials and Methods :

Clinically suspected cases of candidiasis attending the Sir J. J. Group of Hospitals, were studied. This included cases from the skin, paediatric, gynaecology, tuberculosis and diabetes departments. In each case suitable material was examined in a smear preparation

and subjected to culture. Any *Candida*-like organisms grown were studied in detail and the species identified according to the tests and criteria of Dolan<sup>4</sup>. The borderline between commensalism and pathogenicity of *Candida* species is very thin. Therefore only the presence of a characteristic clinical picture together with isolations of a *Candida* was taken as evidence of candidiasis.

### Results :

The table gives details of the variety, frequency, age-wise distribution of the cases and the species isolated.

### Discussion :

Candidial vulvovaginitis formed the largest group of cases in the present study. Its occurrence accounted for the increased frequency of candidiasis in women and if excluded, resulted in a similarity of frequency and disease patterns in the two sexes. Intertrigo was the next most frequent lesion and accounted for 18 cases. These came from all age-groups but were most common in young and middle-aged adults. Oral thrush, which was the next frequent

Department of Microbiology  
Grant Medical College  
Bombay 400008

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TABLE 1

Clinical type, age of occurrence and species of *Candida* isolated in 100 cases of candidiasis

Clinical type	Number of patients in the age - group - in years				Total & %	<i>Candida albicans</i>	<i>Candida tropicalis</i>	<i>Candida stellatoidea</i>	<i>Candida guilliermondii</i>	<i>Candida krusei</i>
	0-12	13-20	21-40	>40						
1. Vulvovaginitis	3	6	20	1	30	18	4	4	2	2
2. Intertrigo	2	6	7	3	18	14	4	0	0	0
3. Onychia & Paronychia	0	2	8	2	12	8	2	0	0	2
4. Oral thrush	16	0	0	0	16	14	0	2	0	0
5. Enteritis	3	0	0	0	3	3	0	0	0	0
6. Bronchitis	0	0	0	12	12	10	2	0	0	0
7. Generalised cutaneous	8	0	0	0	8	6	2	0	0	0
8. Urinary tract infection	0	0	0	1	1	1	0	0	0	0
<b>Total &amp; Percentage</b>	<b>32</b>	<b>14</b>	<b>35</b>	<b>19</b>	<b>100</b>	<b>74</b>	<b>14</b>	<b>6</b>	<b>2</b>	<b>4</b>

(16 cases), was observed exclusively in the paediatric age-group. Surprisingly enough candidial bronchitis was quite common. This occurred in individuals aged over 40 years. Another notable feature was the eight cases of generalised cutaneous candidiasis; all these cases were in the paediatric age-group.

A similar study carried out in Bombay in 1966<sup>5</sup>, which covered a total of 295 cases, showed the following pattern of distribution of candidiasis: vulvovaginitis 26.4%; intertrigo 29.2%; onychia and paronychia 25.9%, oral thrush 12%; enteritis 4.4% and bronchitis 2.1%. It is quite interesting that ten years later the pattern of candidiasis, as obtained in the present study, has shown a change. Now, disseminated candidiasis of the skin is more frequent and both intertrigo and onychia and paronychia

much less frequent in the spectrum of candidial disease.

#### References

1. Winner HI, Hurley R: Symposium on *Candida* infections, L & S Livingston Ltd Edinburgh, London, 1966.
2. Emmons CW, Binford CH, Utz JP et al: Medical Mycology, Lea and Febiger, Philadelphia, 1977.
3. Rippon JW: Medical Mycology. W B Saunders Company, Philadelphia, London, Toronto, 1974.
4. Dolan CT: A practical approach to identification of yeast-like organisms, Am J Clin Path, 55: 580, 1971.
5. Dastidar SG, Desai SC, Purendare MD: Candidiasis in Bombay, J Post Med, XII: 187, 1966.