Antibodies against *Trichosporon beigelii* in vaginal washings from asymptomatic women

G. QUINDOS, J. SCHNEIDER*, M. ALVAREZ, J. PONTON and R. CISTERNA

Departamentos de Microbiologia e Inmunologia and *Obstetricia y Ginecologia, Facultad de Medicina y Odontologia, Universidad del Pais Vasco-Euskal Herriko Unibertsitatea, Apartado 699, Bilbao, Spain

**Summary.** *Trichosporon beigelii* was isolated from vaginal washings from three asymptomatic women. All three women had IgG or IgA anti-*T. beigelii* antibody titres ≥20 when tested by an indirect immunofluorescence assay against the three strains isolated. Titres ≥160 were found when each patient was tested against her own isolate. Patients with *Candida albicans* vulvovaginitis, or from whom *C. albicans* or *Toruloposis glabrata* was isolated from vaginal washings, or who had negative cultures for yeasts, had titres ≤20.

**Introduction**

In the past decade awareness of the importance of infections caused by opportunistic fungi, including *Trichosporon beigelii* (syn. *T. cutaneum*) has increased. *T. beigelii* is usually non-pathogenic but it can cause a mild infection on hair shafts, known as white piedra. Since 1970, when it was first reported to be capable of causing systemic infection (Watson and Kallichurun, 1970), several reports have confirmed that it can cause deep-seated infections, mainly in surgical patients, intravenous drug abusers, bone marrow transplant recipients, and other immunosuppressed patients; Hoy et al., 1986; Walsh et al., 1986).

Despite the isolation of *T. beigelii* from vaginal swabs (Pritchard and Muir, 1985) and from patients with penile ulcers (Chapel *et al.*, 1978) its pathogenic status in these locations is still unclear. Its presence may represent colonisation, asymptomatic infection, or a true infection with few symptoms, that may be attributed to another cause.

Here we report three cases in which *T. beigelii* was isolated from vaginal washings and attempt to elucidate the clinical relevance of the findings.

**Materials and methods**

**Subjects**

One hundred women attending a gynaecological clinic were investigated. They were examined clinically and signs of vulvitis, vaginitis and discharge were recorded as 0 (absent), 1 (moderate) and 2 (severe).

Received 11 Aug. 1988; revised version accepted 21 Sep. 1988.
Results

Of the 100 women included in this investigation, 23 were culture positive for yeasts. The organisms isolated as shown in the table. Microscopy of gram-stained vaginal smears was found to be positive in only a reduced number (18.2%) of the patients with a positive culture. It is noteworthy that the three isolations of T. beigelii were obtained on successive days. No common source of Trichosporon transmission by personnel or equipment was discovered and control cultures performed on them failed to grow Trichosporon.

The results obtained by immunofluorescence in the three patients with T. beigelii were compared with two control groups: patients with a positive growth of yeasts other than T. beigelii, and patients from whom yeasts were not grown (figure). Both IgG and IgA anti-T. beigelii antibody titres were raised (20–60) in T. beigelii carriers. Titres were highest when each patient was tested against her own T. beigelii isolate. Antibody titres were either much lower (≤20) or absent in the control groups.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of isolates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candida albicans</td>
<td>12</td>
</tr>
<tr>
<td>Trichosporon beigelii</td>
<td>3</td>
</tr>
<tr>
<td>Torulopsis glabrata</td>
<td>3</td>
</tr>
<tr>
<td>Candida parapsilosis</td>
<td>2</td>
</tr>
<tr>
<td>Candida tropicalis</td>
<td>1</td>
</tr>
<tr>
<td>Candida krusei</td>
<td>1</td>
</tr>
<tr>
<td>Candida guilliermondii</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
</tr>
</tbody>
</table>

Discussion

Trichosporon beigelii is a common fungus associated with animals and has a wide distribution in nature (Kreger van Rij, 1984). In studies of immunocompromised patients, this organism has been demonstrated in samples of skin, sputum, stool and urine (Sandford et al., 1980). It is considered that the most likely portals of entry in
disseminated trichosporonosis are the alimentary tract and the lungs (Walsh et al., 1986). Moreover, although the organism has been found to occur in high frequency in the rectal cultures of homosexual men (Torssander et al., 1985), infections with T. beigelii have not yet been reported in patients with AIDS.

Although T. beigelii has been previously reported in vaginal cultures (Pritchard and Muir, 1985), it is not considered a common coloniser of the vagina (Goldacre et al., 1979). However, the evidence of a humoral response in our subjects may suggest the presence of a subclinical infection. T. beigelii has been isolated from penile ulcers together with other micro-organisms (Chapel et al., 1978). This raises the question of its role as a secondary pathogen, as well as of its possible sexual transmission.

The isolations of T. beigelii took place during a short time period. This corroborates the findings of Walsh et al. (1986) who reviewed the cases of disseminated trichosporonosis of their hospital and observed that four of 15 occurred during the same month.

Although others have found cross reactions with Cryptococcus neoformans (Campbell et al., 1985; MacManus and Jones, 1985; MacManus et al., 1985), in this study there was no cross reactivity with C. albicans. The antibody titres to T. beigelii found in the vaginal washings of our control patients (both asymptomatic and with candida vaginitis) were very low or absent. These findings seem to contradict those reported by Matthews et al. (1986) who found anti-T. beigelii antibodies in the sera of all patients without clinical evidence of T. beigelii infection. Further investigations are required to determine the pathogenic significance of T. beigelii in the human vagina.

We thank Professor D. W. R. MacKenzie (Mycological Reference Laboratory) for reviewing the manuscript, the Medical Illustration Department, Central Public Health Laboratory, Colindale, London, for the graphic work, and Joseba Bikandi for his technical assistance.

REFERENCES


