

P2175 Microsatellite markers for the characterisation of *Candida parapsilosis* candidaemia isolates recovered in a tertiary care hospital

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Background: *Candida parapsilosis* (CP) is the second most frequent *Candida* species isolated from blood cultures in Spain. Epidemic outbreaks of candidemia caused by CP have been described, often associated with the hands of healthcare workers and the contamination of prosthetic devices. These outbreaks are difficult to characterize due to the genetic homogeneity of CP. In this work we studied two possible outbreaks of CP using a 4 microsatellite genotyping technique.

Materials/methods: We detected 6 cases of CP candidemia in the Digestive Surgery ward (DSW) between October and November 2014 (patients DS1 to DS6) and 6 additional cases in the Hematology ward (HW) in the same period of 2015 (patients H1 to H6). CP isolates were stored at -70°C and subcultured in Sabouraud-chloramphenicol agar. Genomic DNA was then extracted after 1 hour of incubation with 10U of lyticase followed by a boiling step (100°C, 15 min) and centrifugation (13.000 rpm, 10 min). Microsatellite markers B5, CP1, CP4 and CP6 were amplified by PCR using specific primers marked with the fluorescent dyes FAM (B5 and CP6), HEX (CP4) and NED (CP1). Amplicon sizes were determined by capillary electrophoresis. CP ATCC2019 was used as a control, as well as two non-related CP strains recovered from blood and vaginal samples (isolates BC1 and VS1, respectively).

Results: Patients mean (SD) age was 55 (15) years, being 8/12 (67%) males. Hematologic patients suffered from acute myeloid leukemia (n=3), multiple myeloma (n=2, 1 with cerebral plasmacytoma) and non-Hodgkin lymphoma. Four neutropenic patients received antifungal prophylaxis with fluconazole (n=3) and posaconazole (n=1). Microsatellite analysis demonstrated no relationship between the isolates obtained from the DSW whereas two couples of patients from the HW were involved in two possible cross-transmission events, as 4 isolates showed allele similarity between them but not with the DSW strains.

Conclusions: Microsatellites genotyping is a useful a rapid technique for the characterization of CP isolates, elucidate epidemiologic associations and identification a possible outbreak.