**Background:** Candida albicans and Candida parapsilosis are common causes of candidemia in neonatal intensive care units (NICUs). Genotyping can detect clusters of C. albicans and C. parapsilosis causing candidemia. We assessed the frequency of C. albicans and C. parapsilosis clusters causing candidemia in the NICU and their chronological distribution during the study period.

**Material/methods:** We studied 78 patients admitted to the NICU of Gregorio Marañón Hospital (Madrid, Spain) with candidemia caused by C. albicans (n=47) or C. parapsilosis (n=31) between January 2007 and December 2014. The incident isolates were identified using molecular techniques and further genotyped using species-specific highly polymorphic microsatellite markers. Isolates were considered to be identical genotypes when they showed the same alleles for all loci. A cluster was defined as a group of 2 or more patients infected by an identical genotype.

**Results:** We found 37 C. albicans genotypes and 17 C. parapsilosis genotypes; overall, 18.5% (10/54) were clustered. We did not find statistically significant differences in the percentage of clusters of C. albicans (n=7, 19%) and C. parapsilosis (n=3, 18%) (P=0.8). Among the 47 patients infected by C. albicans, 30 were infected by singleton genotypes; the remaining 17 (36%) patients were infected by 7 clusters (2-4 patients per cluster). C. albicans clusters (indicated as CA-XX in the figure) were detected sporadically, and most were found between August and December 2010. Among the 31 patients infected by C. parapsilosis, 15 were infected by singleton genotypes; the remaining 16 (52%) patients were infected by 3 clusters (2-12 patients each). Of the 3 C. parapsilosis clusters, 1 (CP-121 in the figure) persisted in the NICU from 2007 to 2011 and infected a high number of patients (n=12). The percentage of patients involved in clusters tended to decrease during the study period.

**Conclusions:** We found a high proportion of C. albicans and C. parapsilosis clusters causing candidemia in neonates that involved a high number of patients. The chronological distribution of clusters differed between species: C. albicans clusters were sporadic, whereas 1 C. parapsilosis cluster persisted in the unit for a long period and affected a high number of neonates.

**Figure:**