

**O0839 Real-life use of PCR for the detection of Mucorales DNA**

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**Background:** Invasive mucormycosis is associated with high mortality and remain difficult to diagnose. Detection of circulating mucorales DNA by PCR allows earlier diagnostic and initiation of effective treatment. PCR are specially used in our center as a screening tool in critically ill burn patients and as a biomarker for the diagnosis in symptomatic patients. We prospectively describe the real-life use of PCR detection of mucorales and interest in therapeutic approach.

**Materials/methods:** From April 2017 to July 2018, 507 PCR were performed in 118 patients. DNA extractions were performed with automated methods using kits from Macherey-Nagel and Ademtech for sera and biopsies respectively, and q-PCR assays targeting DNA from *Mucor/Rhizopus*, *Lichtheimia* and *Rhizomucor* were performed according to the previous method published.

**Results:** 335 PCR (66%) were performed as screening in 81 asymptomatic patients, 306 in critically ill burn patients and 47 in patients with traumatic injuries. 154 PCR (34%) were performed in 35 symptomatic patients, most patients had hematologic malignancies (n=20, 57%) and 7 patients were transplant recipients (20%). PCR were positive in 12 patients (10%). Invasive mucormycosis was confirmed in 7 patients: 1 disseminated *Lichtheimia* infection in a 3-year-old girl with acute leukemia (positive cutaneous biopsy and LBA PCR), 1 *Rhizomucor* pneumonia in a 50-year-old man with acute leukemia (positive serum PCR), 1 *Rhizomucor* pneumonia in a 35-year-old woman with acute leukemia (positive LBA PCR), 1 *Rhizopus* pneumonia in a 57-year-old man with acute leukemia (positive LBA PCR), 1 *Rhizopus* rhinosinusitis in a 64-year-old-woman with type 2 diabetes (positive serum and biopsy PCR), 1 *Rhizopus* wound infection in a 38-year-old-man with traffic accident (positive serum PCR) and 1 *Rhizomucor* burn lesion infection in a 33-year-old-man (screening positive serum PCR). The median time between the date of the first positive PCR and culture was 6 (2-16) days. Invasive mucormycosis was not confirmed in 5 patients with contaminated traumatic wounds and screening positive biopsy PCR.

**Conclusions:** Our early clinical experience indicates that the detection of circulating mucorales DNA could allow early identification of the infection. Further studies are needed to determine positive predictive value.

