

O0266 **Multiplex real-time PCR assay in a high-risk population for intra-abdominal candidiasis**

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**Background:** In absence of positive blood cultures multiplex quantitative real-time PCR (MRT-PCR) in blood can improve the detection of intra-abdominal candidiasis (IAC). We prospectively studied 33 surgical patients receiving >72 hours of antibiotic therapy (no antifungal) who were re-operated by suspected peritonitis.

**Materials/methods:** Blood cultures, MRT-PCR and  $\beta$ -d-glucan (BDG) in serum were performed at day 0 and +4, in all patients. Sera (frozen at -80°C until processed) and blood cultures were tested blind. In absence of a validated gold standard, IAC was defined if *Candida* was detected by direct microscopy examination or growth in culture from purulent specimens obtained during surgery, percutaneous aspiration or from drainage placed less than 24h. For MRT-PCR, the probes targeted the ITS1 or ITS2 regions of ribosomal DNA; Beacon Designer 5.0 software (Premier Biosoft, Palo Alto, CA, USA) was used to design primers and probes.

**Results:** Empirical antifungal therapy was started at day +1 in 82% of pts. Candidemia was confirmed only in 3 pts (9%) and IAC criteria were present in 14 pts (42%). Baseline conditions and risk factors for all pts and IAC pts were, respectively: age (median): 63 y-o vs 69 y-o; >3d UCI stay: 39% vs 36%; multi-colonization: 39% vs 50%; Candida score  $\geq 3$ : 67% vs 71%; solid cancer: 61% vs 64%; parenteral nutrition: 45% vs 36%; septic shock: 67% vs 64%; multi-organ failure: 39% vs 43% and APACHE >14: 52% vs 69%. Overall 30 days-mortality was 21% for all pts, 29% for pts with positive MRT-PCR in serum, 36% for pts with IAC and 66% (2/3) for pts with candidemia. Sensitivity, specificity, PPV and NPV of MRT-PCR in patients with IAC were: 36%, 95%, 83% and 67%, respectively.

**Conclusions:** In this very high-risk population for IAC the frequency of candidemia was low (9%); however a 42% of pts fulfilled criteria for IAC. No significant differences were observed in pts with or without IAC, although mortality was higher in pts with IAC and candidemia. According the IAC criteria accepted for this study, MRT-PCR had a low sensitivity although a high positive predictive value.