

P0037

Poster Session I

How to improve fungal diagnosis

CONTRIBUTION OF 1,3-BETA-D-GLUCAN (BDG) TO THE DIAGNOSIS OF INVASIVE CANDIDIASIS AFTER LIVER TRANSPLANTATION

S. El Anbassi¹, E. Levesque², E. Sitterle¹, F. Foulet¹, J.C. Merle², **F. Botterel**¹

¹Mycology, APHP Henri Mondor Hospital DHU VIC, Créteil, France ; ²Department of anesthesia and surgical intensive care - Liver ICU, AP Henri Mondor Hospital, Créteil, France

Objectives: Invasive candidiasis (IC) cause high morbidity and mortality after liver transplantation, in part due to delayed diagnosis. While early diagnosis and treatment of IC will improve survival rates significantly, clinical and radiological signs are non-specific and develop late in the course of the disease. The fungal cell wall component 1,3-b-D-glucan (BDG) shows promise as an early biomarker of IC and may be useful in identifying patients who would benefit from early antifungal treatment.

This prospective single-study was conducted to evaluate the contribution of BDG for the IC diagnostic after liver transplantation.

Methods : All consecutive patients with liver transplantation at Henri Mondor Hospital in France between January 1st and June 30th. 2013 were prospectively enrolled in the study. For these patients, a weekly monitoring of *Candida* colonisation was conducted and *Candida* score (CS) was calculated. Serum samples were tested weekly and during 1 month after liver transplantation for BDG (Fungitell; Cape Cod Inc, USA).

Results: Among underlying diseases, 27 patients (52 %) were transplanted for cirrhosis, 19 for hepatocellular carcinoma (36 %) and 6 for other reasons (12 %). The median age of the study population was 55 [31-69] years with 39 males. The MELD score was 27 [6-40]. Cultures from 42 (81%) patients yielded *Candida* spp. The most common *Candida* species isolated was *C. glabrata* (55%), followed by *C. albicans* (48%) and *C. parapsilosis* (5%). The rate of documented IC was 9.6% (5/52). All patients with IC were positive for BDG (>250 pg/ml), CS ≥4 and were alive after 3 months. Receiver operating characteristic (ROC) curves was used to evaluate the power of the BDG test in diagnosis of IC. AUROC values were 0.93 ([95% confidence interval (CI) 0.86-1.0], p = 0.001). With a BDG test cut off point of 80 pg/ml, sensibility, specificity, positive predictive value (PPV) and negative predictive value (NPV) were 100%, 48%, 17% and 100% respectively.

Conclusion: Detection of BDG in serum 7 days after liver transplantation seems to be a promising tool to rule out IC in high-risk patients based on the high NPV. This study suggests the consideration of early pre-emptive antifungal treatment in patients who had BDG (>250 pg/ml) and CS of ≥ 4 which may potentially improve patients' outcome.