P0038
Poster Session I
How to improve fungal diagnosis

BETA D GLUCAN FOR GUIDANCE OF ANTIFUNGAL THERAPY AT THE ICU: A RETROSPECTIVE EVALUATION IN A REAL LIFE SETTING: A COHORT STUDY

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Objectives
Timely diagnosis is a key factor in successful treatment of invasive fungal infections (IFI) at the ICU. Beta-D-Glucan (BDG) is a component of the fungal cell wall of most fungi including Aspergillus Candida, Fusarium and Pneumocystis. BDG serum testing has been shown to be a useful marker for early detection and therapy monitoring of IFIs in the ICU. The exact role of BDG in clinical routine /IFI management remains, however, unclear. The purpose of this study was to evaluate a preemptive approach with BDG as a marker for guidance of AF in the ICU.

Methods
ICU patients with clinical suspicion of invasive fungal infections admitted between April 2013 and September 2013 at the Medical University of Graz, Austria were included in the analysis. All patients were seen by the Infectious disease (ID) service and clinical decision was made together with ICU physicians whether or not to initiate systemic preemptive antifungal therapy (AF) depending on clinics and candida scores. BDG testing was performed always prior to initiation of antifungal treatment and in addition to routine diagnostic measures. Beta D glucan testing was performed automatically on the coagulation automat providing results within 24 hours. On the following day when BDG results were available preemptive antifungal therapy was either discontinued (in case of negative BDG results, i.e. <60 pg/mL) or initiated/continued (in case of positive results, i.e. >120 pg/mL). BDG testing was repeated in case of results between 60 and 120

Results
In total 66 pts were included in the analysis. According to clinical decisions by ID and ICU physicians preemptive AF were started in 40 pts, while in 26 pts no AF therapy was initiated. One day later when BDG test results were available BDG results led to discontinuation of preemptive AF in 13 patients, initiation of AF in 7 patients, while in 46 patients the clinical decision was confirmed by BDG results (27 pts with AF, 19 patients without AF). While the majority of prabable and proven IFI cases were predicted by the test, BDG resulted negative in two cases diagnosed later as probable invasive aspergillosis (diagnosed by BAL GM 4 and 9 days later) and one case of probable invasive candidiasis (diagnosed 4 days later). In all 3 patients AF would have also not been initiated according to clinical decision.

Conclusion
BDG seems to be a promising tool to guide antifungal therapy in ICU patients. Prospective studies evaluating our IFI management approach are needed to confirm our results.