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O1053 Evaluation of (1,3)-B-D Glucan in an antifungal stewardship program in solid organ transplant recipients and oncologic pacients

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Background: The overuse of antifungal treatment (AF) in high-risk populations contributes to the emergence of resistance and superinfections and increases related-toxicity and health-care costs. Objective: to analyze the influence of (1,3)-ß-D glucan (BDG) test in an Antifungal Stewardship Program (ASP) in a high risk population.

Materials/methods: Pre-post study in adult hospitalized patients with solid tumor or solid organ transplantation who received AF as empirical or targeted treatment. During the initial period (PRE) -2011 to 2014- the ASP was based on bed-side advice provided by expert ID specialists. In the intervention period (POST) -2015 to 2016-, advice was complemented with BDG performed, at least, on days +0, +3 and +5 of AF treatment. AF use adequacy was evaluated according to a published score (0-10 points) that analyzes AF indication, drug selection, dosage, adjustment to microbiological results, sequential treatment and optimal duration.

Results: 50 patients were included in the PRE-period and 126 in the POST. Both groups only differed in the rate of oncological patients (60% vs 77%; p=0.02). Proven fungal infections were similar in both groups (52% vs 55.6%; p=0.67). Overall, 327 BDG tests were performed in the POST period (201 positive and 126 negative).
The AF adequacy score improved in the POST period (mean 8.06 vs 9.13; p=0.002), mainly due to better microbiological adjustment (78% vs 95.8%, p<0.001) and optimal treatment duration (56% vs 83.3%, p<0.001). In the POST period, BDG contributed to improve management in 81/126 (64.3%) patients, by means of helping in the diagnosis confirmation 36 (45%), drug withdrawal 34 (42.5%) or AF treatment modification 11 (12.5%). Length of empirical treatment (mean 16.2 vs 8.4 days, p=0.05) and mortality (52% vs 33.6%; p= 0.02) were reduced in the POST period.
Assuming a mean AF cost of 300€/day, BDG use allowed a 2100€ reduction per patient on empirical treatments. This was a cost-effective strategy, considering that 3 BDG determinations per patient cost 90€.

Conclusions: Our data suggest that the use of BDG was a cost-effective strategy that contributed to safely improve the results of an ASP in SOT and oncologic patients.