



## BACKGROUND

- Serum (1-- >3)-b-D-glucan (BDG) assay is a noninvasive serological marker, it can be used as an adjunct to the diagnosis of invasive candida infections, *Pneumocystis jirovecii* pneumonia (PJP), and invasive aspergillosis (IA).
- There is limited data in serial monitoring of serum BDG in those fungal infections after treatment was initiated.

## METHODS

- This is a cross-sectional study of 26 cases of proven fungal infection (invasive candidiasis, IA or PJP) and serum BDG >500 pg/ml who were admitted to University of Kentucky hospitals or clinics from 01/2012 to 01/2021.
- We compared at least two measures of the serum BDG levels obtained within two to eight weeks after initial diagnosis to evaluate the levels of BDG during and post-treatment.
- A decrease in BDG level is defined as any value below 500 pg/ml; normal serum BDG level as < 80 pg/ml.

### References:

1. Koga M. Kinetics of serum  $\beta$ -D-glucan after *Pneumocystis pneumonia* treatment in patients with AIDS. 2011;50(13):1397-401.
2. Jaijakul S. (1,3)- $\beta$ -D-glucan as a prognostic marker of treatment response in invasive candidiasis. Clin Infect Dis. 2012 Aug;55(4):521-6.

The duration of a decline in serum BDG level was shorter in patients with PJP and longer in patients with invasive candidiasis

There was no linear decline in serum BDG level even after appropriate treatment in invasive fungal infections

Serial serum BDG level was not routinely done for monitoring the treatment response in this cohort.

## RESULTS

- 14 (51.8%) cases of Invasive candidiasis
  - 6 (22.2%) cases of PJP
  - 6 (22.2%) cases of IA
- Decreased BDG <500 pg/ml after weeks of treatment**
- In 10/26 (38.5 %) cases after 2-3 weeks of treatment. (Fig. 1)
  - In 4/6 (66.6%) cases of PJP after 3 weeks
  - In 3/6 (50.0%) cases of IA after 6 weeks
  - in 6/14 (42.8%) cases of invasive candidiasis after 8 weeks
- Persistent BDG >500 pg/ml**
- After 8 weeks of treatment in 2 cases of candidiasis.
  - 12/26 (46.1%) cases didn't have a repeat BDG level after at least 2 separate levels with >500 pg/ml.

Figure 1: Serial serum BDG levels of each case after treatment initiation

