**OBJECTIVES:**

To describe the clinical and microbiological characteristics, treatment and outcomes of invasive *Aspergillus* spp. infections whithin a Chronic Granulomatous Disease mexican cohort.

**METHODS AND MATERIALS:**

Retrospective review of invasive aspergillosis (IA) events in patients with genetic diagnosis of CGD from seven mexican centers between 2005 to 2024. Information was obtained from each patient’s clinical chart. For the descriptive analysis data were expressed according to distribution, categorical variables with proportions, and numerical variables as medians (interquartile range are in parenthesis).

**RESULTS**

A total of 45 patients presented with one or more events of IA; median age of first episode was 4.5 years (2.5 – 11.6) and 87% were male. X-linked CGD genotype was identified in 33 patients and recesive in 12, there was no significant difference between median age of the first IA event in the X-linked compared to the recesive genotype. A total of 79 episodes of IA were diagnosed; 26 patients (58%) had one IA episode and 19 had more than one. The main clinical presentation was pulmonary infection (75%); dissemination occurred in 25%, with bone, spleen and central nervous system (CNS) being the most common sites. Based on the EORTC/MSGERC criteria, 13 (17%) events were classified as proven, 35 (44%) probable, and 31 (39%) possible. Thirty events had a positive *Aspergillus* spp. culture, 13 of which were *A. fumigatus* and the remainning 17 were non *fumigatus* especies: *A. versicolor* (7), *A. terreus* (2), *A. nidulans* (2), *A. flavus* (4), *A. ustus* (1), and *A. niger* (1). Galactomannan antigen was positive in BAL in 17 events.

Antifungal therapy was administred in 78 events of aspergillosis; 43 (55%) were treated with monotherapy (voriconazole) and 35 (44.8%) with more than one antifungal (voriconazol + caspofungin or lyposomal amphotericin B). Comparing mortality with duration of treatment (ROC curve analysis), 36% of those receiving <75 days of treatment died compared to 16.7% of those with >75 days (p=0.05).

Stem cell transplantation was performed in 12 (27%) patients, four were diagnosed with IA during the post-transplant period (median time of 21 days) resulting in fatal outcomes.

The overall mortality was 57.7% (26/45), with 18 (69%) deaths attributed to IA. The median age at death was 8 years (3.6–16.3), and the median time between the first IA event and death was six months (1–15).

**CONCLUSION**To our knowledge, this is the first study describing the clinical characteristics and outcomes of patients with CGD and IA in Latin America. Our study showed a younger age for the first episode of IA with predominance of the X-linked genotype. Compared to other published data, the number of IA events and mortality attributed to IA was higher in our cohort, this is due to the delay in diagnosis and therapeutic challenges when coinfection with bacterial and mycobacterial agents is present or suspected. Combined versus single antifungal treatment is still debatable for IA in CGD; in our study a longer course of treatment showed better outcomes.