Oman Medical Journal [2026], Vol. 41, No. 1: e809

Perspective of Mindful Approach to Antifungal Prophylactics in Very Low Birth Weight Infants

Marija Lukavac*
Neonatal Intensive Care Unit, Medcare Women and Children Hospital, Dubai, UAE

ARTICLE INFO

Article history:
Received: 9 May 2025
Accepted: 5 November 2025

Online:
DOI 10.5001/omj.2025.100

Dear Editor,

I read with interest an insightful article entitled "Comparing Fluconazole and Nystatin as Antifungal Prophylactics in Very Low Birth Weight Infants: A Randomized Clinical Trial" by Asgarzadeh et al.[1] The authors investigated the effectiveness of oral antifungal prophylaxis compared with intravenous treatment, showing that oral therapy is as effective as intravenous therapy.

Late-onset sepsis (LOS) remains compelling topic and constant challenge in neonatal intensive care units (NICUs), and it increases morbidity and mortality among preterm infants, resulting in poorer neurodevelopmental outcome.[2] The incidence of LOS due to candidiasis is 10–20%, mainly affecting infants between 23 and 24 weeks gestational age (GA), although some units report a lower incidence.[3,4]

Reflecting upon the article, I am sharing my observations related to the principles of antibiotic stewardship.

Antifungal prophylaxis was given to very low birth weight infants (< 1500 g, < 32 weeks' GA). Antifungal prophylaxis remains an ultimate standard for preterm infants with birth weights < 1000 g (≤ 27 weeks' GA) only, as they carry the highest risk for systemic fungal infection, it is a targeted rather than universal treatment.[3,5–7] Some authors recommend prophylaxis, only for infants < 1000 g in units with a high incidence of candida infection (i.e. invasive candidiasis > 10%).[3,5] It would be in the interest of the reader to understand the reasoning behind authors' approach (infants < 1500 g), since only 5% of the patients in this trial developed systemic fungal infection in the form of urinary tract infection, while none of three mentioned mortalities were caused by candida infections directly.[1]

Following this observation, it could be insightful to divide the patient cohorts into subcohorts (according to the gestational age or birth weight) to refine the most susceptible groups. This will capture and highlight subcohorts with the highest risk and need for prophylaxis.

Prophylactic treatment was also continued for six weeks or until discharge. This differs slightly from standard guidelines that recommend stopping treatment after six weeks,[5,6] or when there is no need for intravenous access, as this is considered the safest and the most effective approach.[7] Furthermore, research data demonstrated that the restrictive use of broad-spectrum antibiotics is an essential modifiable factor in LOS.[8]

The authors presented successful oral prophylaxis of Candida LOS in very low birth weight infants, which can have notable impact on everyday practice. However, it is important to emphasize the importance of balance between the benefits and potential risks of antifungal use and contribute to constant attentiveness of antibiotics usage to stewardship in NICUs.

REFERENCES

1. Asgarzadeh L, Mahallei M, Gharehbaghi MM. Comparing fluconazole and nystatin as antifungal prophylactics in very low birth weight infants: a randomized clinical trial. Oman Med J 2024 Jul;39(4):e651.
2. Kartam M, Embaireeg A, Albalool S, Almesafer A, Hammoud M, Al-Hathal M, et al. Late-onset sepsis in preterm neonates is associated with higher risks of cerebellar hemorrhage and lower motor scores at three years of age. Oman Med J 2022 Mar;37(2):e368.
3. Hope WW, Castagnola E, Groll AH, Roilides E, Akova M, Arendrup MC, et al. ESCMID* guideline for the diagnosis and management of Candida diseases 2012: prevention and management of invasive infections in neonates and children caused by Candida spp. Clin Microbiol Infect 2012 Dec;18 Suppl 7:38-52.

*Corresponding author: ✉marijalukavac@gmail.com

4. Abdellatif M, Al-Khabori M, Rahman AU, Khan AA, Al-Farsi A, Ali K. Outcome of late-onset neonatal sepsis at a tertiary hospital in Oman. Oman Med J 2019 Jul;34(4):302-307.
5. Pappas PG, Kauffman CA, Andes DR, Clancy CJ, Marr K, Ostrosky-Zeichner L, et al. Clinical practice guideline for the management of candidiasis: 2016 update by the infectious diseases society of America. Clin Infect Dis 2016;62(4):e1-e49.
6. Kimberlin DW, Brady MT, Jackson MA, Long SS. American Academy of Pediatrics. Candidiasis. In: Kimberlin DW, Banerjee R, Barnett ED, editors. Red book: 2024–2027 report of the committee on infectious diseases. 33rd ed. American Academy of Pediatrics; 2024. p.286.
7. Kaufman DA. "Getting to Zero": preventing invasive Candida infections and eliminating infection-related mortality and morbidity in extremely preterm infants. Early Hum Dev 2012 May;88 Suppl 2:S45-S49.
8. Kilpatrick R, Scarrow E, Hornik C, Greenberg RG. Neonatal invasive candidiasis: updates on clinical management and prevention. Lancet Child Adolesc Health 2022 Jan;6(1):60-70.