Observation on Article Related to Comparison of Fluconazole and Nystatin as Antifungal Prophylactics in Very Low Birth Weight Infants

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Dear Editor,

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

Late onset sepsis (LOS) remains compelling topic and constant NICU challenge, and increase morbidity and mortality of preterm infants, resulting in poorer neurodevelopmental outcome.[2] Incidence of LOS due to the candidiasis is up to 10-20%, mainly affecting infants between 23-24 weeks of GA, although some units reports lower incidence.[3,4]

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

In aforementioned trial, antifungal prophylaxis was given to a very low birth weight (<1500 gr., <32 weeks of GA). Antifungal prophylaxis remains an ultimate standard for preterm infants with birth weight less than 1000 gr. only (≤27 weeks of GA) as they carry the highest risk for systemic fungal infection, and rather being targeted than universal.[3,5,6,7] Prophylaxis for infants >1000 gr. is recommended in the units with high incidence of candida infection (i.e. invasive candidiasis >10%).[3,5] It will be in the interest of the reader to understand reasoning behind authors' approach (infants <1500 gr.), since only 5% of the patients in this trial developed systemic fungal infection in a form of urine tract infection while none of 3 mentioned mortalities were caused by candida infections directly.[1]

Following on this observation, it can be insightful to break down patient cohorts into subcohorts (ex. 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 till discharge." This differs slightly from standard guidelines that recommend stopping the use when there is no need for intravenous access, as the safest and the most effective approach.[5, 6,7] Furthermore, research data demonstrated that the restrictive use of broad spectrum antibiotics is an essential "modifiable factor" in LOS.[8]

Authors presented successful oral prophylaxis of Candida LOS in VLBW infants, which can have notable impact on everyday practice. It is, however, 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.

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