P 13

**SAFETY OF HIGH DOSE MICA FUNGIN FOR THE
TREATMENT OF FUNGAL INFECTIONS IN NEONATES**Veronica Chorro-Mari, Nanna Christiansen. *Barts Health NHS Trust*

10.1136/archdischild-2015-308634.21

Aim This case study aimed to determine whether high dose Micafungin (15 mg/kg once daily) was safe to use in neonates. The dose of 15 mg/kg is four times higher than recommended in the BNFc and SPC. However, the rapid metabolism in

premature neonates,¹ the need of good tissue penetration of the antifungal and previous failure to liposomal Amphotericin were determinant factors to use high dose of Micafungin in two patients.

Methods A Medline search was performed and showed some evidence of higher doses of 10–15 mg/kg used safely and effectively in premature neonates.^{1 2} Data was collected retrospectively from patient drug charts, patient's notes and BadgerNet database used in our level 3 Neonatal Intensive Care Unit. CRS-Citrix was used to collect information of blood results. Data collected included indication, exact dose and duration of treatment, response to treatment and LFT.

Results From Jan to Dec 2013 two patients were treated with high dose Micafungin (15 mg/kg). One was an extremely premature baby with a gestational age of 27+0 weeks who developed a fungal pyelonephritis due to *Candida lusitanae* at 41⁺⁴ weeks. The patient was previously on liposomal Amphotericin (3 mg/kg) without any clinical response. Micafungin 15 mg/kg once daily was prescribed, treatment duration was 24 days. Liver function remained stable throughout treatment and no other adverse effects were observed.

The second baby was an extremely premature baby born at 25⁺⁵ weeks. This baby developed an invasive candidiasis thought to be affecting the CNS and failed treatment with liposomal Amphotericin (3 mg/kg) at 30+4 weeks. High dose Micafungin (15 mg/kg once daily) was prescribed with the aim to achieve CNS penetration and treatment was given for 21 days. During treatment the LFT remained largely stable apart from a rise in bilirubin from 44 micromol/L to 104 micromol/L, thought to be caused by the Parenteral Nutrition. Alkaline Phosphatase in serum rose during treatment to a level of 563 IU/L (prior starting treatment with Micafungin was 376 IU/L), although this was thought to be due to the Metabolic Bone Disease, since by the end of the treatment with Micafungin related Alkaline phosphatase was 378IU/L.

Conclusion Daily Micafungin at 15 mg/kg in these two premature infants did not show safety concerns since there was no obvious drug related liver impairment or other toxicity observed and patients were improving. However, close monitoring was required to ensure that this treatment together with associated diseases of the patient due to prematurity would not compromise patient's health. More studies are required to establish the safety of this dose since metabolism in the premature baby is still immature.

REFERENCES

- 1 Smith BP, Walsh TJ, Hope W, *et al.* Pharmacokinetics of an elevated dosage of micafungin in premature neonates. *Pediatr Infect Dis J* 2009;28:412–15.
- 2 Ascher S, Smith BP, Benjamin DK. Safety of Micafungin in Infants: Insights into Optimal Dosing. *Expert Opin Drug Saf* Mar 2011;10:281–86.