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EFFICACY AND SAFETY OF ACYCLOVIR AS PREVENTION OF VARICELLA DISSEMINATION IN IMMUNOCOMPROMISED CHILDREN: AN EVIDENCE-BASED CASE REPORT

Assyifa Gita Firdaus, Nina Dwi Putri, Mulya Rahma Karyanti. *Indonesia*

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Background Varicella infection is very common in children and easily transmitted. In immunocompetent, varicella infection is usually mild and self-limiting. However, in immunocompromised, varicella infection has the potential to disseminate and cause complications, one of which is pneumonia, due to impaired cellular immunity that the morbidity and mortality is much higher. Acyclovir is an antiviral that is effective for varicella in immunocompetent children.

Objectives Evaluate evidence exists to date regarding the efficacy and safety of acyclovir in reducing morbidity (disease severity, duration of illness and dissemination) and mortality of immunocompromised children with varicella.

Methods Literature searching was conducted on PubMed, Cochrane and MEDLINE with the keywords of 'acyclovir', 'varicella', 'immunocompromised' and 'children'. After filtering articles based on inclusion and exclusion criteria without time limitation, we found 3 relevant articles. One was excluded since it didn't apply blinding and thus result to the final 2 randomized clinical trials that were critically appraised based on the validity, importance and applicability criteria of Oxford Center for Evidence-Based Medicine (2011).

Results In terms of efficacy, 12 (48%) out of 25 placebo recipients were withdrawn from the double-blind randomized treatment to be treated by open intravenous acyclovir due to their worsening condition, only 1 out of 25 (4%) who were treated by intravenous acyclovir and only 2 out of 25 (8%) who were treated by oral acyclovir were similarly withdrawn ($p < 0.001$). Consequently, intravenous and oral acyclovir both significantly reduce varicella dissemination and mortality. The use of intravenous acyclovir also significantly accelerates crusts formation ($p < 0.001$), reduces the duration of varicella infection. In terms of safety, there were increase in blood urea nitrogen levels without any clinical manifestation and acute diarrhea without dehydration which was mild and self-limiting.

Conclusions All immunocompromised children who develop varicella should be considered for early treatment with either intravenous or oral acyclovir since both are safe and significantly prevent worsening condition of the patient due to varicella dissemination. Intravenous acyclovir also reduces the duration of infection. All patients need to be monitored closely by the physician, especially the one who receives oral

therapy, that any whose condition does not show improvement should be considered for intravenous route.

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USE OF ABDOMINAL X-RAY IN CHILDREN WITH CONSTIPATION PRESENTING TO ED IN A DISTRICT GENERAL HOSPITAL: A REVIEW OF OUR PRACTICE

John Rajan, Grace Audu. *UK*

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Background Constipation is common in childhood with UK prevalence ranging between 5–30%. Consequently, inpatient data statistics showed that 79% of children with constipation are admitted through emergency admission. Functional constipation is a clinical diagnosis using history and clinical examination. The national institute for health and care excellence (NICE) and our local trust guidelines clearly state that abdominal x-rays (AXR) should not be used in the diagnosis of constipation unless by specialist services.

Objectives To assess the number of children with constipation presenting to the Paediatric Emergency department (PED) who had Abdominal X-ray (AXR) against recommended guidelines, time spent by these patients in paediatric emergency department, patient flow, the cost of having the AXR and the amount of radiation exposure.

Methods A retrospective review of electronic notes of patients under the age of 16 who had a diagnosis of constipation was conducted over a 3 month period from 1 September 2019 to 30 November 2019.

Results 67 cases were identified.

28% (19) of the 67 children had AXR. Only 1 of the 19 patients who had imaging was admitted. The rest were discharged with no change in management.

The average time spent in the Emergency Department for those who had AXR was 3.92 hours compared to 2.62 hours (P Value 0.008) in children who had no imaging.

The estimated avoidable cost for the AXR was £2000 over a 3 month period (£100/AXR) with a total avoidable radiation of 0.03–0.11 mSv/AXR.

Conclusions Abdominal X-rays are still performed in children presenting to our PED with constipation despite our guideline recommendations against doing so. Performing X-rays in these children led to longer time spent in the department, increased cost and unnecessary radiation exposure without influencing change in management plan or need for admission. We recommend adhering to the national and local guidelines and avoid AXR where necessary.

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CASE REPORT: MENKES DISEASE, AN ILLUSTRATION OF DISEASE RELATED PROGRESSIVE SKULL FRACTURE IN A PRETERM NEONATE

Alexander Yule, Bilal Manzoor. *UK*

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Background Menkes disease is an X-linked progressive neurodegenerative disorder caused by abnormalities of the ATP7a transporter that result in abnormal copper transportation in the mammalian nervous system. Menkes disease results in neurological symptoms and connective tissue abnormalities.