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Poster Presentation

PT-149 Safety of short-acting nifedipine in children : a literature review**Pieter De Cock**¹, Luc Van Bortel², Ann Raes³, Johan Vandewalle³, Annick De Jaeger⁴, Hugo Robays¹¹Pharmacy Dpt., ²Clinical Pharmacology Dpt., ³Paediatric Nephrology Dpt., ⁴Paediatric Intensive Care Dpt., University Hospital, Ghent, Belgium

Background and Objective: Short-acting nifedipine has been abandoned for treatment of hypertensive crises in adults as a result of significant adverse events. This literature review will assess the safety of short-acting (SA) nifedipine in paediatrics.

Design: Literature review

Setting: Department of Paediatrics

Main Outcome Measures: Guideline for safe use

Results: A Pubmed search revealed three large retrospective series specifically addressing the safety of use of SA nifedipine in children.

First retrospective series reported that a ≥ 25 % precipitous reduction in mean arterial pressure (MAP) was observed in 35 % of given doses. MAP reduction significantly correlated with nifedipine dose adjusted for weight. A dose of 0.25 mg/kg or less did not lead to precipitous MAP reduction. No patients experienced cardiovascular or central nervous system side effects. A similar chart review reported a mean blood pressure reduction of 17 % for systolic blood pressure and 28 % for diastolic blood pressure. Adverse drug events occurred in 9.6 % of patients and included neurological events, symptomatic hypotension and oxygen desaturation. In most neurological events and all patients with symptomatic hypotension a blood pressure reduction of > 20 % was observed. 33 % of neurological events occurred in patients with acute central nervous system (CNS) injury.

5.1 % minor adverse events probably related to SA nifedipine administration were recorded in a third review and mainly included edema, nausea and vomiting and gastro-intestinal pain. A serious adverse event of blood pressure reduction > 40 % occurred in two patients but neither was symptomatic and all recovered spontaneously within 2 h.

Conclusions: Based on available literature, a consensus in our hospital was gathered for continued use of short-acting nifedipine in hospitalized children, except in those with acute CNS damage. However, it should only be used on wards with extensive patient monitoring and at a dose below 0.25 mg/kg.

Keywords: nifedipine ; safety ; children