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Poster Presentation

PT-149 Safety of short-acting nifedipine in children: a literature review

Pieter De Cock1, Luc Van Bortel2, Ann Raes3, Johan Vandewalle3, Annick De Jaeger4, Hugo Robays1
1Pharmacy 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