Dokumenttyp: journal article
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Titel des Beitrags: Nimesulide, a cyclooxygenase-2 preferential inhibitor, impairs renal function in the newborn rabbit.

Abstract:
Tocolysis with nonsteroidal anti-inflammatory drugs (NSAIDs) has been widely accepted for several years. Recently, the use of the cyclooxygenase-2 (COX2) preferential NSAID nimesulide has been proposed. However, data reporting neonatal acute renal failure or irreversible end-stage renal failure after maternal ingestion of nimesulide question the safety of this drug for the fetus and the neonate. Therefore, this study was designed to define the renal effects of nimesulide in newborn rabbits. Experiments were performed in 28 newborn rabbits. Renal function and hemodynamic parameters were measured using inulin and para-aminohippuric acid clearances as markers of GFR and renal blood flow, respectively. After a control period, nimesulide 2, 20, or 200 microg/kg was given as an i.v. bolus, followed by a 0.05, 0.5, or 5 microg.kg(-1).min(-1) infusion. Nimesulide administration induced a significant dose-dependent increase in renal vascular resistance (29, 37, and 92%, respectively), with a concomitant decrease in diuresis (-5, -23, and -44%), GFR (-12, -23, and -47%), and renal blood flow (-23, -23, and -48%). These results are in contrast with recent reports claiming that selective COX2 inhibition could be safer for the kidney than nonselective NSAIDs. These experiments confirm that prostaglandins, by maintaining renal vasodilation, play a key role in the delicate balance regulating neonatal GFR. We conclude that COX2-selective/preferential inhibitors...
thus should be prescribed with the same caution as nonselective NSAIDs during pregnancy and in the neonatal period.