

3rd International Conference on **Nephrology & Therapeutics** June 26-27, 2014 Valencia Conference Centre, Valencia, Spain

Renal dysfunction in neonates due to in utero exposure to medications

Varsha Phadke

K. J. Somaiya Medical College, India

A variety of drugs are prescribed for either complications of pregnancy or maternal diseases that existed prior to the pregnancy, also self-medication by pregnant women may occur. Some of these drugs could cause renal adverse effects; structural or functional. These effects may particularly occur when fetuses are exposed to NSAIDs, ACE inhibitors and specific Angiotensin II receptor type I antagonists.

NSAIDs inhibit prostaglandin synthesis through their action on the cyclo-oxygenase (COX) enzyme, which has 2 isoforms COX1 and COX2 which are located in kidneys. Prenatal exposure to NSAIDs causing nephrotoxicity has been reported with indomethacin, ibuprofen, piroxicam, nimesulide, diclofenac and rofecoxib.

Maternal use of ACE inhibitors such as enalapril and lisinopril can cause renal dysfunction in neonates which may be due to fetal hypotension and prolonged decreased glomerular filtration. Angiotensin II functions by binding its type I (AT1) receptors to cause vasoconstriction and retention of sodium and fluid. AT-I receptor antagonists such as losartan, valsartan and telmisartan can lead to renal failure in neonates.

These drugs may induce oligohydramnios and variable effects on the neonatal kidney ranging from reversible renal failure to severe renal insufficiency requiring peritoneal dialysis and may lead to death.

Hence NSAIDs should be given in pregnancy only if the maternal benefits outweigh potential fetal risks. ACE inhibitors and AT II receptor antagonists should be replaced by other antihypertensive drugs.

Long-term follow up of infants exposed in utero to these drugs is essential to observe potential adverse effects such as chronic renal failure and hypertension.

Biography

Varsha Phadke has completed her DCH and MD (Pediatrics) at Seth G. S. Medical College and K. E. M. Hospital, Mumbai. She is Professor and Head of the Department of Pediatrics at K. J. Somaiya Medical College, Mumbai. She is the recipient of Pediatric Nephrology fellowship by Indian Academy of Pediatrics and FAIMER fellowship (Foundation for Advancement of International Medical Education and Research).

varshadp@gmail.com