

Fetopathy probably associated to self-medication with a blocker of the renin-angiotensin system

Fabiana Esposito · Mariangela Galfetti ·
Sebastiano A. G. Lava · Brenno Balestra ·
Mario G. Bianchetti

Received: 4 July 2011 / Accepted: 14 July 2011 / Published online: 27 July 2011
© Springer-Verlag 2011

To the Editor,

Drugs that block the renin-angiotensin-aldosterone system, including converting enzyme inhibitors, angiotensin receptor blockers and, more recently, the direct renin inhibitor aliskiren are among the most widely prescribed antihypertensive agents [1, 2]. When prescribed in the second half of pregnancy, these agents can cause a constellation of findings that includes oligohydramnios, pulmonary hypoplasia, joint contractures, hypocalvaria, fetal growth retardation, kidney disease, arterial hypotension, and death. We report on the adverse sequelae noted following maternal self-medication with an angiotensin receptor blocker [3].

A 34-year-old woman affected by systemic lupus erythematosus on medication with the antimalarial hydroxychloroquine, the β -blocker metoprolol, the calcium-channel blocker nifedipine and the angiotensin receptor blocker losartan became pregnant. Losartan was stopped and the dose of the remaining antihypertensive agents adjusted.

In week 34 of gestation, oligohydramnios was noted and later also fetal growth retardation. In week 37, because of nonreactive fetal heart rate monitoring, a male newborn was delivered by caesarean section without neonatal alarm

indicators. Body weight (2.250 kg) and length (0.46 m) were below the 10th percentile for the gestational age. However, head circumference (0.330 m), mean blood pressure (from 35 to 45 mmHg) and the clinical examination were normal. Urinalysis was positive (++) for protein but circulating creatinine (16 $\mu\text{mol/l}$) and urea (4.1 mmol/l) were normal. Ultrasound evaluation showed bilateral hyperechogenic kidneys with normal size [4]. We were initially unable to ascribe the aforementioned pathological history and findings to any particular cause. Detailed questioning in retrospect revealed that the mother, unaware of the toxicity potential, had resumed losartan 50 mg/day in week 32 of gestation without consulting any physician.

Fetopathy induced by the use of drugs targeting the renin-angiotensin-aldosterone system has been so far reported among women who fail to stop the medication after conception (mostly because they are lost to follow-up) or, more rarely, among women inadvertently prescribed the medication during pregnancy [3]. To the best of our knowledge, this might be the first case of fetopathy that results from self-medication [5].

Conflict of interest None.

References

1. Zaman MA, Oparil S, Calhoun DA (2002) Drugs targeting the renin-angiotensin-aldosterone system. *Nat Rev Drug Discov* 1:621–636
2. Gradman AH, Kad R (2008) Renin inhibition in hypertension. *J Am Coll Cardiol* 51:519–528
3. Quan A (2006) Fetopathy associated with exposure to angiotensin converting enzyme inhibitors and angiotensin receptor antagonists. *Early Hum Dev* 82:23–28
4. Mercado-Deane MG, Beeson JE, John SD (2002) US of renal insufficiency in neonates. *Radiographics* 22:1429–1438
5. Ruiz ME (2010) Risks of self-medication practices. *Curr Drug Saf* 5:315–323

F. Esposito · S. A. G. Lava · M. G. Bianchetti (✉)
Division of Pediatrics, Mendrisio and Bellinzona Hospitals,
University of Bern, Bern, Switzerland
e-mail: mario.bianchetti@pediatrician.ch

M. Galfetti
Division of Obstetrics and Gynecology,
Ospedale Regionale Beata Vergine, Mendrisio, Switzerland

B. Balestra
Division of Internal Medicine,
Ospedale Regionale Beata Vergine, Mendrisio, Switzerland