## **Clinical Note**

# Gentamicin use in pregnancy. A renal anomaly

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Trinary tract infection (UTI) is one of the most frequently seen "medical" complications of pregnancy and affects the prognosis of the pregnancy. In women who have a UTI and not aware of their pregnancy, fetus may be inadvertently exposed to antibiotics that carry a higher risk for teratogenicity, which causes perinatal problems and death.<sup>1</sup> This report describes a patient who was prescribed gentamicin and ciprofloxacin during her pregnancy. A 20 year-old, Caucasian, primigravida with irregular menses and who was unaware of the pregnancy until the sixth gestational week, had been treated in the third gestation week with ciprofloxacin 1000 mg/day (for 10 days) for an uncomplicated UTI. However, after 10 days, the clinical course had worsened. Then, gentamicin 160 mg/day (for 10 consecutive days, total 1600 mg) had been prescribed. Drugs had been used between the third and fifth gestational weeks according to the last menstrual period. Ultrasonography was performed at the sixth week to confirm the pregnancy and to determine the gestational period. There was not consanguineous marriage, smoking, alcohol consumption, Rh incompatibility, or an history or family history of x-ray renal abnormalities. She did not have any chronic disease and was not treated with any other medications other than mentioned above. Due to the drug ultrasonographies exposure, obstetric were performed at 17, 19, 22, 27, 29 and 31st gestation weeks, to check on the prognosis of pregnancy. At all sonographic evaluations, bilateral renal pelvises markedly dilated without caliectasis, were presenting as large unilocular cystic masses. Progressive thinning of the renal cortecies and enlargement of renal pelvises were demonstrated during follow up. The last sonographic examination at 31 week's gestation showed that anteroposterior renal pelvic diameters in the transverse plane were 35 mm on the right and 51 mm on the left side with a very thin rim of cortices (Figure 1). The ureters were not seen, and bladder and amniotic fluid volumes were normal at all sonographic evaluations. All findings were compatible with bilateral severe chronic obstruction at the ureteropelvic junctions. The pregnancy progressed without any other complication. The mother did not accept genetic counseling for the present pregnancy and she rejected the option of therapeutic abortion. In the 37th week, the patient had a male baby (3200g, 49



**Figure 1** - Sonographic examinations at 31 weeks gestation showing markedly dilated renal pelvises without caliectasis which is compatible with bilateral hydronephrosis.

cm, apgar 1-3) with normal spontaneous vaginal delivery. The physical examination did not reveal any other malformation; and the baby died 4 hours after delivery. One of the most common anomalies is urinary tract anomaly. Severity ranges from asymptomatic abnormalities to malformations incompatible with life. In 19.6% of the pregnancies, a fetal renal anomaly fails to produce a surviving child.<sup>2</sup> These abnormalities are not only the result of a genetic defect, but also attributable to the exposure to some drugs during pregnancy.<sup>2</sup> Bilateral hydronephrosis is one of the serious results of such an anomaly. Pharmacotherapy for urinary infections during pregnancy requires an assessment of the risks and benefits of treatment for both the mother and the fetus.<sup>1</sup> Aminoglicozides lead to a well-known nephrotoxicity and ototoxicity.<sup>3</sup> Hulton et al<sup>4</sup> reported a patient of renal dysplasia associated with in utero exposure to gentamicin to corticosteroids, but this drug can also be offered in clearly defined clinical situations.<sup>3</sup> Intrauterine exposure to ciprofloxacin in human offsprings does not show a clear correlation with major abnormalities.<sup>5</sup> In our patient, both drugs were used in therapeutic doses and within the therapeutic period (10 days). If the bilateral hydronephrosis is attributable to either or both drugs, depending on the literature data, it is more likely to be related to gentamicin. We realize that there is not exact proof for a causal relationship between gentamicin or, or both ciprofloxacin in the pathogenesis of this newborn's renal disease. Gentamicin is not the first choice for treating UTI, and does not warrant a high priority, especially in pregnant women and ciprofloxacin may be used with caution. Consequently, we recommend that, physicians consider the possibility of pregnancy of women while prescribing for UTI.

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