

## **Hypospadias and Cocaine Use in Pregnancy**

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### **Abstract**

#### ***Presentation***

Male dichorionic-diamniotic twins were born by caesarean section. Hypospadias was noted in the delivery suite. Whilst in the delivery room the father presented hyper-alert, energetic and was talkative with a short attention span raising the suspicion that he was under the influence of an illicit substance.

#### ***Diagnosis***

First pass urine samples for toxicology was requested and both twins tested positive for cocaine metabolites in their urine.

#### ***Treatment***

In-hospital monitoring for scoring (Finnegan score) and signs of withdrawal for a period of 5 days. Both infants were referred to Paediatric Urology with a view to planned surgery sometime after their first birthday.

#### ***Discussion***

Hypospadias is a common congenital anomaly. As the use of cocaine is increasing over time there may be an under recognition of this association and a missed opportunity to correctly identify a cause.

### **Introduction**

Hypospadias has an estimated incidence of 3- 8/1000 newborn males in Europe.<sup>1</sup> Studies have shown that a positive family history of hypospadias increases the risk almost tenfold. Low birth weight, small-for-gestational-age and intra-uterine growth restriction have all been associated with hypospadias.<sup>1,2</sup> Twins are at an increased risk and monozygotic twins are four-fold more likely to have hypospadias when compared with dichorionic twins.<sup>1,3</sup>

It has been hypothesised that low birth weight may reflect placental insufficiency which accounts for the increased occurrence of hypospadias in twins and for the association with pre-eclampsia.<sup>4</sup> A prospective cohort study found that of 50 cocaine-exposed infants, seven had a malformation of the genitourinary tract, including two with hypospadias.<sup>5</sup> 'Population studies from the Centers for Disease Control' in Atlanta estimate the crude odds ratio for renal tract abnormalities in association with maternal cocaine use to be as high as 4.39.<sup>6</sup> The prevalence of antenatal drug misuse at the Rotunda Hospital, Dublin in 1997 was nearly 3% and postnatally almost 6%.<sup>7</sup>

### **Case Report**

Male dichorionic-diamniotic twins were born by caesarean section to a 31-year-old lady, G4P3, with history of 3 previous caesarean sections. She had an uncomplicated pregnancy, with no significant medical history and normal anomaly scan. She presented in premature labour at 36+1 weeks gestation.

Birth weight for twin 1 was 2.88kg. Apgars were 7 and 8 at 1 and 5 mins respectively. Birth weight for twin 2 was 2.17kg. Apgars were 5 and 8 at 1 and 5 mins respectively. Both twins had hypospadias and signs of respiratory distress, requiring non-invasive respiratory support mandating admission to the neonatal unit.

Whilst in the delivery the father presented hyper-alert, energetic and was talkative with a short attention span raising the suspicion that he was under the influence of an illicit substance. Both twins had normal full blood counts and blood cultures. Chest x-rays performed due to respiratory distress were consistent with transient tachypnoea of the newborn. First pass urine samples for toxicology were requested due to the father's behaviour and both tested positive for cocaine metabolites in their urine. Both infants were referred to Paediatric Urology with a view to planned surgery sometime after their first birthday. In-hospital monitoring for scoring (Finnegan score) and signs of withdrawal for a period of 5 days, a Medical Social Work review and risk assessment was performed with community follow-up. They were reviewed in the Neonatal Outpatient Department at 6 weeks and 3 months. They were thriving along centiles and developmentally appropriate and discharged to the care of their General Practitioner.

### **Discussion**

There is a paucity of reporting regarding the associations between cocaine use during pregnancy and urogenital anomalies, in particular hypospadias. Testing can be performed on urine, blood, meconium, hair or umbilical cord blood.<sup>8</sup> False negative results are common in urine testing when there is a delay in obtaining samples as drugs clear from urine rapidly. Self-reported cocaine use will underestimate users. Approximately 5-10% of women admit to illicit drug use during pregnancy while universal testing in high risk populations confirms cocaine use in 10-40%, with drug users seldom confining their use to just one substance.<sup>8</sup> Cocaine use has been rising steadily over the last decade.<sup>9</sup> The clinician should have a low threshold for testing the urine of an infant where there is concern about drug use, both to confirm clinical concern and to ensure a psychosocial assessment and referral to social services is made. A guideline for screening is helpful to minimise bias.<sup>10</sup> In the case of anomalies related to illicit drug use, it is incumbent on the medical practitioner to counsel the parents of the association between their drug use and the clinical findings in the hope of preventing drug use and modifying behaviour in subsequent pregnancies.

**Declaration of Conflicts of Interest:**

The authors have no conflicts of interest to declare.

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