



NEONATAL NEPHROCALCINOSIS: A CASE REPORT

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KEYWORDS :

INTRODUCTION:

Nephrocalcinosis and nephrolithiasis is a relatively rare occurrence in both term and preterm neonates. The incidence is particularly high in infants with low birth weight. However, it varies widely between 1.7% and 64%¹. Most cases are associated with conditions like diuretic use, bronchopulmonary dysplasia, infant of diabetic mothers, increased calcium and phosphorus intake and in-utero renal pathologies, such as infection, abscess, infarct, hemorrhage or necrosis, which is subsequently healed with calcification². Also renal ischemia or the use of nephrotoxic drugs can result in renal tubular injury that can enhance heterogeneous nucleation of calcium phosphate or calcium oxalate crystals. However most cases are idiopathic and are diagnosed antenatally or shortly after birth as an incidental finding. Here we report a case of neonatal medullary nephrocalcinosis diagnosed during routine antenatal check up.

Case Report:

We report a case of a newborn girl born to 23years old primigravida. Antenatal period was uneventful except the mother was treated by parenteral iron therapy for anemia. There was no other risk factors associated with pregnancy. At 8 months of gestation during maternal ultrasound, baby was found to be suffering from nephrocalcinosis in utero. Baby was delivered by normal vaginal delivery at Dr RPGMC Tanda, Himachal Pradesh, India. She was small for date with birth weight of 2100gm and her gestation was 39 weeks 2 days. Head circumference was 35cm and length was 50cm. There was no gross congenital malformations and baby was shifted with mother after initial screening at birth and was kept on daily followup. At day 4 of life, baby was lethargic and not feeding well. She was lethargic and had a decreased urine output. Her RBS was 43 mg /dl. She was immediately shifted to NICU and in suspicion of clinical sepsis investigative workup was sent to lab. Her investigations revealed Hb-17.5g/dl, TLC-24500/mm³, CRP->24<48mg/l, platelets-175000/mm³. Sepsis screen was positive and baby was started on i/v fluids, cefotaxime and amikacin. CSF was done which was suggestive of bacterial meningitis. Both blood and CSF cultures were subsequently negative. Baby improved subsequently and antibiotics were stopped after 10 days. Other investigations were : serum urea-26mg/dl, serum creatinine-0.67mg/dl, serum Na-144.7mEq/l, K-4.6mEq/l, alkaline phosphatase-161U/l, S. calcium-9.3mg/dl, phosphorus-5.0mg/dl, urine routine/ microscopy and thyroid function tests were normal. Initial USG at day 1 of life was suggestive of medullary nephrocalcinosis right kidney. X-ray chest, USG neck, abdomen and neuro-sonogram were normal. Secondary causes of nephrocalcinosis were ruled out by carrying out vitamin d3 levels, intact parathyroid hormone levels of both the mother and baby. All blood biochemistry was normal. The baby remained on follow-up thereafter and USG kidney and urinary bladder was repeated at 1 and 3 months of age which surprisingly did not revealed any evidence of nephrocalcinosis thereafter.

DISCUSSION:

Neonatal medullary nephrocalcinosis is seen both in term and pre term neonates usually associated with some adverse events in the antenatal period such as maternal diabetes, congenital intrauterine infections, maternal nephrotoxic drug intake, increased calcium and phosphorous intake, increased exposure to diuretics and neonatal bronchopulmonary dysplasia (BPD), in-utero renal pathologies, such as infection, abscess, infarct, hemorrhage or necrosis, which is subsequently healed with calcification. Most cases are self-limiting and benign and require routine follow up for renal function tests and serial renal ultrasounds³.

REFERENCES:

1. Jacinto JS, Modanlou HD, Crade M, Strauss AA, Bosu SK. Renal calcification incidence in very low birth weight infants. *Am Acad Pediatrics*. 1988;81:31-35.
2. Short A, Cooke RW. The incidence of renal calcification in preterm infants. *Arch Dis Child*. 1991;66:412-17.
3. Saarela T, Vaarala A, Lanning P, Koivisto M. Incidence, ultrasonic patterns and resolution of nephrocalcinosis in very low birthweight infants. *Acta Paediatr*. 1999;88:655-60.