

8. Malek RS, Kelalis PP. Pediatric nephrolithiasis. *J Urol* 1975, 113: 545.
9. Troup CW, Lawnicki CC, Bourne RB, Hodgson NB. Renal calculus in children. *J Urol* 1972, 107: 306-307.
10. Ghazali S, Barratt TM, Williams DI. Childhood urolithiasis in Britain. *Arch Dis Child* 1973, 48: 291.
11. Segura JW. Percutaneous management. In: Campbell's Urology. Eds Walsh PC, Retik AB, Stamey TGA, Vaughan ED. Philadelphia, W.B. Saunders Company, 1992, pp 2183-2194.
12. Roth RA, Beckmann CF. Complications of extracorporeal shock wave lithotripsy and percutaneous nephrolithotomy. *Urol Clin North Am* 1988, 15: 155-166.

## Nephrocalcinosis in a Six-Week-Old Infant

U.S. Ali  
L. Shankar  
M.S. Joshi  
K.P. Mehta

Nephrocalcinosis is being detected with increasing frequency in neonates and young infants. Various therapeutic strategies used in the care of preterms and very LBW babies such as long term furosemide therapy, calcium infusions and parenteral nutrition are some of the important reasons for the increased incidence of nephrocalcinosis in this age group(1-8).

However, in the absence of these ad-

verse perinatal factors, nephrocalcinosis remains a rarity in young infants(4). We report a case of nephrocalcinosis and distal renal tubular acidosis (RTA) in a six-week-old infant.

### Case Report

A 6-week-old female infant presented with a history of failure to thrive and vomiting of 3 weeks duration and breathlessness since 4 days. She was born of a full-term normal delivery with a birth weight of 2.25 kg. The antenatal history was uneventful. There was no perinatal asphyxia, respiratory distress or medications. A previous female sibling had a similar history of failure to thrive and vomiting. Her urinalysis had revealed leucocyturia and she had been treated for sepsis. She had not been investigated further and had died at 10 weeks of age.

On examination the patient weighed 1.9 kg, had moderate dehydration and was tachypneic with a respiratory rate of 60 per minute. Her systemic examination was normal. Investigations revealed a hemoglobin level of 9 g/dl, WBC count of 7,600/ $\mu$ mm with neutrophils 36%, lymphocytes 63% and eosinophils 1%, platelets were adequate on smear. Urinalysis revealed trace albumin, absent sugar and 4-6 WBCs per high power

*From the Division of Pediatric Nephrology, Bai Jerbai Wadia Hospital for Children and Research Centre, Bombay.*

*Reprint requests: Dr. Uma S. Ali, Associate Professor of Pediatrics, Bai Jerbai Wadia Hospital for Children and Research Centre, Bombay 400 012.*

*Received for publication: May 26, 1992;*

*Accepted: January 5, 1993*

field. Urine culture grew *Klebsiella pneumoniae* with a colony count of  $10^5$ /ml. The blood level of urea was 18 mg/dl, creatinine 0.7 mg/dl, sodium 138 mEq/L, potassium 3.2 mEq/L, bicarbonate 11.4 mEq/L and pH of 7.26. The child was rehydrated, the metabolic acidosis was corrected with alkali and the urinary tract infection treated with intravenous amikacin for 7 days. Repeat urine culture showed no growth.

The child was reevaluated after recovery when she was off all medications. The blood gases showed a bicarbonate level of 14.9 mEq/L with a pH of 7.315. The level of serum sodium was 127 mEq/L, potassium 2.6 mEq/L, calcium 9.6 mg/dl, phosphorus 6.4 mg/dl and alkaline phosphatase 225 IU/L. A simultaneous urinary pH was 7.5. The calcium/creatinine ratios in spot urine

samples done on 2 occasions were 0.6 and 2. The urine was negative for sugar and ketones and the urinary amino-acidogram was normal.

Ultrasonography of the abdomen revealed right kidney measuring  $4 \times 1.9$  cm and left kidney measuring  $3.9 \times 1.7$  cm. The medullary regions of both kidneys were hyperchoic which was highly indicative of nephrocalcinosis (Fig. 1). The cortex of both kidneys were normal. Abdominal X-ray did not reveal any calcification. The child was put on oral alkali supplements, beginning at 3 meq/kg/day with periodic blood gas and growth monitoring. She required 7-8 meq/kg/day of alkali to maintain normal blood gas levels and showed a good catch-up growth. At 1 year of age, her growth and milestones were normal for age and her serum bicar-



Fig. 1. Renal ultrasound showing multiple hyperechoic areas in the medullary region indicating nephrocalcinosis.

8. Rodrigues-Soriano J, Vallo A, Castillo G, Oliveros M. Natural history of primary distal renal tubular acidosis treated since infancy. *J Pediatr* 1982, 101: 669-676.
9. Palmer H, Cornfeld D. Primary renal tubular acidosis recognized and treated at 3 days of age. *Clin Pediatr* 1973, 12: 140-144.
10. Barratt TM. Urolithiasis and nephrocalcinosis. In: *Pediatric Nephrology*. Eds Holiday MA, Barratt TM, Vernier RL. Baltimore, William and Wilkins, 1987, pp 700-708.
11. Bettinelli A, Bianchetti MG, Giradin E, *et al.* Use of calcium excretion values to distinguish two forms of primary renal tubular hypokalemic alkalosis: Bartter and Bitelman Syndromes. *J Pediatr* 1992, 120: 38-43.

## Pheochromocytoma

S.N. Tomaraei  
M. Singh  
A. Dhawan

Pheochromocytoma, rightly named as "pharmacologic bomb", is a rare tumor in the pediatric age group. It is one of the curable causes of hypertension in children. A review of Indian literature reveals only 6 children with pheochromocytoma reported so far(1-4).

The purpose of this communication is to report a cause of pheochromocytoma who presented with hypertensive encephalopathy, and to review the Indian literature with

special reference to the mode of presentation of pheochromocytoma and to highlight certain points in its diagnosis and management.

### Case Report

A 9½-year-old male child was admitted to Nehru Hospital, PGIMER, Chandigarh with a history of convulsions few hours prior to admission. There was a history of palpitation, headache, abdominal pain and constipation for the last few months prior to admission. On admission he had sustained hypertension of 180/136 to 196/140 mm Hg. Systemic examination including fundus examination revealed no abnormality.

Intravenous pyelography (IVP) showed a right adrenal mass, suggestive of pheochromocytoma. Ultrasound scan of the abdomen revealed a well-defined mass in suprarenal region, measuring 3.3 × 2.6 × 3.1 cm, and CT scan abdomen showed a well-defined enhancing mass at the upper pole of the right kidney (*Fig. 1*). It measured 4 × 3 × 3.5 cm in size. Hemoglobin ranged from 14.5 to 12.5 g/dl and PCV 45 to 35% (after repeated plasma transfusions in order to maintain intravascular volume). Urine vanillylmandelic acid (VMA) estimations, on 3 different occasions, were 6.5 mg/24 h, 6.7 mg/24 h and 6.5 mg/24 h, respectively (normal

---

*From the Department of Pediatrics, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012.*

*Reprint requests: Dr. Meenu Singh, Assistant Professor, Department of Pediatrics, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012.*

*Received for publication: January 16, 1992;*

*Accepted: December 1, 1992*