

## Renal Subcapsular Abscess

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*An 18-day-old neonate presented with fever and abdominal distension. Renal subcapsular abscess was diagnosed with sonography and CT scan. Percutaneous drainage resulted in aspiration of 20 mL of pus, which grew *Staphylococcus aureus*.*

**Key words:** Neonate, Renal subcapsular abscess.

Renal and perirenal abscesses are uncommon in neonates. Diagnosis may not be readily apparent at presentation. We report renal subcapsular abscess in an 18-day-old neonate.

### Case Report

A term neonate was referred on day 18 of life for excessive cry, mild abdominal distension and fever for 2 days. The neonate was febrile and irritable. There was no obvious focus of infection. A clinical diagnosis of late onset sepsis was considered. Investigations revealed a total leucocyte count of 17800/mm<sup>3</sup>, cytoplasmic vacuolation and toxic granules in peripheral smear and B:N ratio of 0.18. Urine routine and CSF analysis were normal. Baby was put on empirical antibiotic therapy. By 48 hours blood culture was reported as sterile. Fever was persisting along with intermittent irritability. Repeat examination of the abdomen revealed a palpable mass in left lumbar region related to kidney. Possibility of perinephric abscess was considered and investigated further.

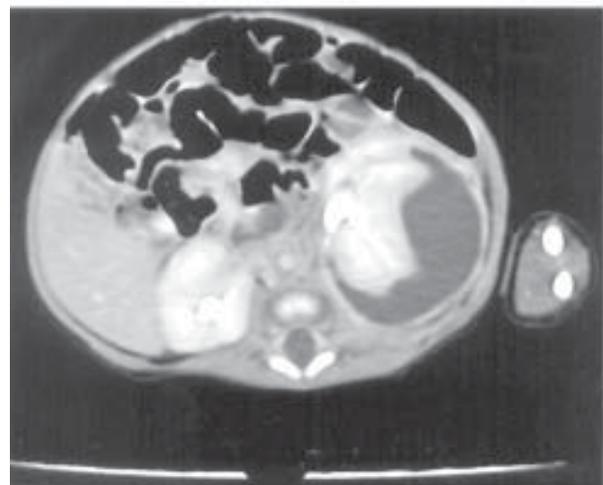
Blood urea was 10 mg/dL and serum creatinine of 0.5 mg/dL. Renal sonogram revealed a large (6.9 × 2.5 × 2.8 cm) heterogeneous collection adjacent to left kidney indenting the left renal capsule. CT scan revealed a well defined nonenhancing

hypodense collection (6 × 3.9 × 3.6 cm) in the subcapsular region of left kidney compressing and displacing the kidney anteromedially. The capsule showed enhancement on post contrast study (*Fig. 1*). There were few septations within the collection in its lower aspect with adjacent fat stranding. However, prompt excretion of the contrast was noted into the left sided pelvicalyceal system. Final diagnosis of renal subcapsular abscess was made.

Percutaneous drainage was done under ultrasound guidance. About 20 mL of pus was drained. Draining tube kept was removed by next 48 hours. Culture of pus grew *Staphylococcus aureus*. Cloxacillin was continued for 2 weeks as per sensitivity report. At subsequent follow up the infant was normal and renal sonogram did not reveal any collection.

### Discussion

Renal subcapsular abscess is a very rare disease that is defined by a suppurative process localized to a space between the renal capsule and the renal parenchyma(1,2). This entity is not reported in neonates. The diagnosis of renal and perirenal abscess in children is difficult and delayed because symptoms are often nonspecific. Most children present with fever, flank pain, with or without a palpable mass, an elevated leukocyte count and erythrocyte sedimentation rate. There may be tenderness in the



*Fig. 1. Contrast CT scan showing renal subcapsular abscess with capsular enhancement and few septations within (left side).*

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renal angle. Urine and blood cultures are not uniformly positive. The diagnosis is greatly facilitated by sonography or computed tomography(3,4). Predominant causative organisms are Enterobacteriaceae and Staphylococcus aureus. Gram negative organisms have been implicated in hematogenous infections when the kidney is obstructed, or has been traumatized(1,5,6). The mainstay of treatment for these lesions remains broad spectrum parenteral antibiotics and percutaneous or open surgical drainage. Percutaneous drainage in children has proven to be safe and effective for the treatment of these lesions(1,7).

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#### REFERENCES

1. Angel C, Shu T, Green J, Orihuela E, Rodriquez G, Hendrick E. Renal and peri-renal abscesses in children: proposed physio-pathologic mechanisms and treatment algorithm. *Pediatr Surg Int* 2003; 19: 35-39.
2. Dembry LM, Andriole VT. Renal and perirenal abscesses. *Infect Dis Clin North Am* 1997; 11: 663-680.
3. Haddad MC, Hawary MM, Khoury NJ, Abi-Fakher FS, Ammouri NF, Al-Kutoubi AO. Radiology of perinephric fluid collections. *Clin Radiol* 2002; 57: 339-346.
4. Weigert F, Schulz U, Kromer HD. Renal abscess: report of a case with sonographic, urographic and CT evaluation. *Eur J Radiol* 1985; 5: 224-225.
5. Zatuchni J, Patel HK, Torres V. Renal subcapsular abscess. *Urology* 1986; 27: 368-370.
6. Dougherty FE, Gottlieb RP, Gross GW, Denison MR. Neonatal renal abscess caused by Staphylococcus aureus. *Pediatr Infect Dis J* 1991; 10: 463-466.
7. Caldamone AA, Frank IN. Percutaneous aspiration in the treatment of renal abscess. *J Urol* 1980; 123: 92-93.