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CASE REPORT

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**Abnormal Presentation of Renal Tuberculosis: A Case Report**

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**Introduction**

Each year nine million new cases and two million fatalities are reported<sup>1</sup> out of which approximately 5% of cases occur in developing countries.<sup>2</sup> In India, more than 1000 lives are lost every day due to TB despite the availability of modern diagnostic aids and treatment.<sup>3</sup> The genitourinary system is one of the most common sites of involvement amongst extra pulmonary tuberculosis, accounting for 15%–20% of infections outside the lungs.<sup>4,5</sup> About 25% of patients who present with tuberculous genitourinary disease have a known history of prior pulmonary tuberculosis; an additional 25%–50% of patients will have radiographic evidence of prior subclinical pulmonary infection.<sup>6</sup> Imaging findings can support the diagnosis of genitourinary tuberculosis, although cultures or histologic analysis is required for definitive diagnosis. The most valuable radiologic feature of genitourinary tuberculosis is the multiplicity of abnormal findings.<sup>7</sup> Whenever a pattern of chronic renal inflammatory disease is recognised, particularly in the setting of periureteric or peripelvic fibrosis, tuberculosis must be considered clinically.<sup>7</sup>

**Case Report**

An apparently healthy 5 year-old female child presented with vomiting since 4 days and abdominal pain since 4 months. The

patient vomited 2-3 times a day and vomiting was non-bilious, non-projected and not associated with headache. However, vomiting was associated with abdominal pain which was colicky in nature and confined to peri-umbilical region and subsided spontaneously within 30-60 minutes. The patient developed one episode of paroxysmal event with tonic clonic movement of all four limbs with up rolling of eyes. The patient presented with no complaints of loose stools/constipation, fever, cough, cold, trauma or bleeding from any orifice. There were mild developmental delays. The patient had been immunized till date. On examination the weight was found to be 9.6 Kg (<-3SD) and height was 69cms (<-3SD); Pulse rate 92/minute, respiratory rate 28/minute and BP was 210/110 mmHg. In Systemic examination, no organomegaly was found in respiratory examination and chest was bilaterally clear. S1 and S2 sounds were heard in cardiovascular examination with no murmur.

**Investigations**

On routine examination of urine, 20-22 pus cells were seen however no organisms were isolated on urine culture. Fundus examination showed GRADE – IV hypertensive retinopathy papilloedema 2D – Echocardiogram revealed hypertensive heart disease with concentric left ventricular hypertrophy with good left ventricular systolic function. The total

calcium levels and ionic calcium levels were found to have decreased. Micturating cysto-urethrogram revealed bilateral GRADE-IV vesicourethral reflux. Ultrasound of neck non-necrotic cervical lymphadenopathy. In contrast enhanced computed tomography (CECT); both the kidneys appeared small and showed extensive cortical scarring. There was mild dilation of calyces on both sides. There was mild to moderate dilation of both the ureters. Irregular thickening of the right vesico-urethral junction was seen extending into the distal ureter. Mild uroepithelial thickening was seen along the entire length of both ureters. No radio dense calculus was seen on either side. Urinary bladder was particularly distended and showed mild wall thickening. Multiple enlarged necrotic lymph nodes were seen in the retroperitoneum pre and para-aortic at the level of renal hilum the largest one measuring 2.1 X 1.8 cm. The right and left renal artery appear normal with no stenosis or thrombosis within. The patient was diagnosed with genitourinary tuberculosis with bilateral GRADE-IV vesico-urethral reflux with hypertension and wasting of muscles with stunting of growth. Initially the patient was put on Labetalol (i.v) continuous infusion at rate of 0.4 Kg/hr and blood pressure was monitored hourly labetalol dose was increased or increased as per requirement. As urine routine microscopy suggested pus cells (20-22), Ceftriaxone (Monocef) and amikacin was injected while awaiting the reports of above mentioned investigations. Category 1 Anti-tubercular treatment to treat genitourinary tuberculosis (2HRZE+4HRE). CT guided fine needle aspiration cytology of affected lymph nodes revealed only hemorrhage but no cellularity. The patient came for follow up after successfully completing 9 months

of Anti-tubercular treatment suggested GRADE-V vesico-urethral reflux on right and GRADE-IV vesicourethral reflux on left side. The dose of Anti-hypertensive drugs was reduced. On repeat follow up the patient was found to have chronic kidney disease stage 3 with GRADE-IV vesico-urethral reflux, secondary hypertension with anemia and vitamin D deficiency. The patient was prescribed hydrochlorothiazide, Enalapril, soamint(sodium bicarbonate), septran, vitamin D3 syrup. The hypertension was well undercontrol on further follow up.

### Discussion

Tuberculosis is the most common worldwide cause of mortality from infectious diseases.<sup>8</sup> In India, more than 1000 lives are lost every day due to TB despite the availability of modern diagnostic aids and treatment.<sup>3</sup>

Renal tuberculosis usually affects adults between second and fourth decades of life and is reported as being rare in children.<sup>9</sup> There is long latent period (5-40 years) between the original pulmonary infection and the appearance of clinical renal involvement is rare before the age of 20 years.<sup>10</sup>

However, the case presented above is that of a 5 year old child who didn't have a past history of pulmonary TB. The patient came with complaints of abdominal pain, vomiting and was found to have hypertension. The Renal TB can end up in several complications spanning from amyloidosis squamous metaplasia, cavitation, calcification to autonephrectomy. Our patient suffers from grade IV vesicourethral reflux on left side and grade V vesicourethral reflux on right side. A strong clinical suspicion supported

with confirmatory investigations prompted an early diagnosis, thus minimizing the detrimental effects to renal system.

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