Case 16823

Eurorad

A rare case of disseminated tuberculosis with putty kidney, ileal stricture and symphysis pubis involvement

Published on 29.06.2020

ISSN: 1563-4086
Section: Abdominal imaging
Area of Interest: Abdomen Gastrointestinal tract Kidney
Procedure: Contrast agent-intravenous
Imaging Technique: CT
Imaging Technique: CT-Enterography
Special Focus: Infection Obstruction / Occlusion Case
Type: Clinical Cases
Authors: Dr. Nirmal Prasad Neupane1, Dr. Kapil Dawadi2, Dr. Keshika Koirala2, Dr. Ongden Yonjen Tamang3
Patient: 80 years, female

Clinical History:

An 80-year-old female presented to the emergency department with a chief complaint of abdominal distension associated with a few episodes of vomiting. No history of abdominal pain or fever was noted. The patient was cachexic and had lost significant weight in the last 6 months. The patient was never operated before for any surgical conditions. No past history of tuberculosis was noted in the patient or in the family members.

Imaging Findings:

Contrast-enhanced CT of abdomen and pelvis was done with the suspicion of acute intestinal obstruction. It showed diffuse symmetrical thickening of the terminal ileum with heterogeneous enhancement in the post-contrast study. The thickened segment of the ileum measured approximately 7.2 cm in length and showed maximal wall thickness of approximately 5.2 mm. Narrowing of the bowel lumen was noted in the region. Proximally the ileal and the jejunal loops were dilated suggestive of intestinal obstruction. There was approximately 36.2 cc of collection noted in the mesentery abutting the thickened segment of the ileal loop. Few enlarged enhancing lymph nodes were also noted in the mesentery. The left kidney was relatively small in size and showed diffuse peripheral and cortical calcification. No enhancement of the renal parenchyma was noted in the post-contrast study. The kidney was non-functioning and showed no excretion of contrast. Ill-defined lytic lesions were noted in the pubic bone on either side of the pubic symphysis. Minimal soft tissue component was noted in the region. No associated abscess formation or sinus tract formation was noted. Since the patient had stricture with bowel obstruction and collection in the adjacent mesentery, laparotomy was done. Resected bowel segment was sent for histopathology and it was suggestive of gastrointestinal tuberculosis. For pubis symphysis lesion, FNAC was done separately and it showed granulomatous inflammation consistent with tuberculosis.

Discussion:

Tuberculosis is a multisystem disease and is caused by mycobacterial species. It is one of the major causes of mortality worldwide. Because of the resurgence of TB among the immunocompromised patients and with the development of multidrug-resistant tuberculosis, it is still a disease with global concern [1]. It has a spectrum of presentations and manifestations. TB primarily affects the respiratory system but is known to have a propensity for other systems like genitourinary, musculoskeletal, gastrointestinal and central nervous system [2]. Tuberculous manifestations can range from simple infections to severe life-threatening complications. Here, we present a case of an elderly patient with concomitant genitourinary, gastrointestinal and musculoskeletal tuberculosis. Genitourinary tuberculosis can involve the kidneys (parenchymal granulomas, papillary necrosis, infundibular and calyceal strictures), ureters (multifocal ureteric strictures, granulomas), urinary bladder (bladder calcification, thimble bladder) and the male and female genital organs. End-stage renal manifestations can present as a small kidney with dystrophic calcification hat is commonly referred to as putty kidney [3]. Ileocaecal tuberculosis is the most common form of intestinal tuberculosis. There is thickening of terminal ileum and caecum with pulled up caecum and associated necrotic lymph nodes [4]. Mesenteric abscesses and intestinal fistulas can occur as complications of tuberculosis. The symphysis pubis is a relatively uncommon site of musculoskeletal tuberculosis and only a few cases have been reported before [5]. It can present as lucent bony lesion with erosions and associated abscess or sinus tract formations [6]. A high index of suspicion and meticulous evaluation can help us in making an early diagnosis in cases of multi-system involvement of tuberculosis. This can not only lead to prevention of the complications but can also guide us in the early start of anti-tubercular therapy preventing the morbidity and mortality associated with dissemination of tuberculosis.

Take home message: Concomitant multisystem involvement of tuberculosis can pose a diagnostic challenge if not meticulously evaluated. High index of suspicion and proper imaging can help in early diagnosis and proper treatment of patients with disseminated tuberculosis. Significant reduction in morbidity and mortality can occur with proper diagnosis and early start of anti-tubercular therapy.

Written informed patient consent for publication has been obtained.

Differential Diagnosis List: Disseminated tuberculosis with multisystem involvement , Crohn’s disease, Xanthogranulomatous pyelonephritis, Osteitis pubis

Final Diagnosis: Disseminated tuberculosis with multisystem involvement

References:

Aaron L, Saadoun D, Calatroni I, Launay O, Memain N, Vincent V, Marchal G, Dupont B, Bouchaud O, Valeyre D, Lortholary O. Tuberculosis in HIV-infected patients: a comprehensive review. Clinical microbiology and infection. 2004 May 1;10(5):388-98.
Engin G, Acunas B, Acunas G, Tunaci M. Imaging of Extrapulmonary Tuberculosis 1: (CME available in print version and on RSNA Link). Radiographics. 2000 Mar;20(2):471-88.
Kumar V, Jha V, Sakhuja V. Putty kidney. Iranian journal of kidney diseases. 2012 Jul 1;6(4):255.
Suri S, Gupta S, Suri R. Computed tomography in abdominal tuberculosis. The British journal of radiology. 1999 Jan;72(853):92-8.
Meena S, Gangary SK. Tuberculosis of symphysis pubis: A case report. Journal of research in medical sciences: the official journal of Isfahan University of Medical Sciences. 2015 Jan;20(1):100.
Nicholson OR. Tuberculosis of the pubis. The Journal of bone and joint surgery. British volume. 1958 Feb;40(1):6-15. PMID: 13513645

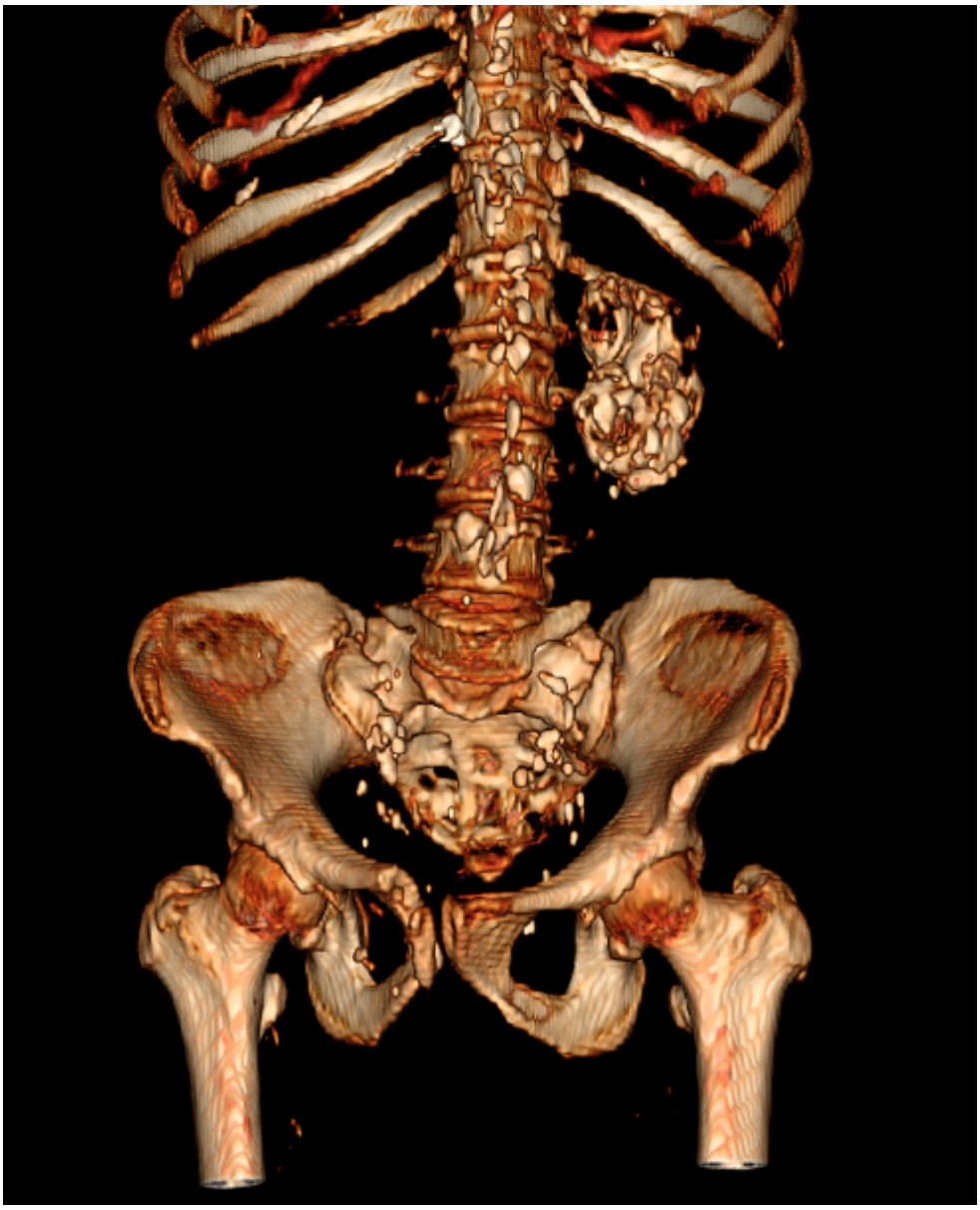
Figure 1

a

Description: Non contrast CT abdomen soft tissue window showing deformed left kidney with diffuse cortical calcification suggestive of putty kidney. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

Figure 2

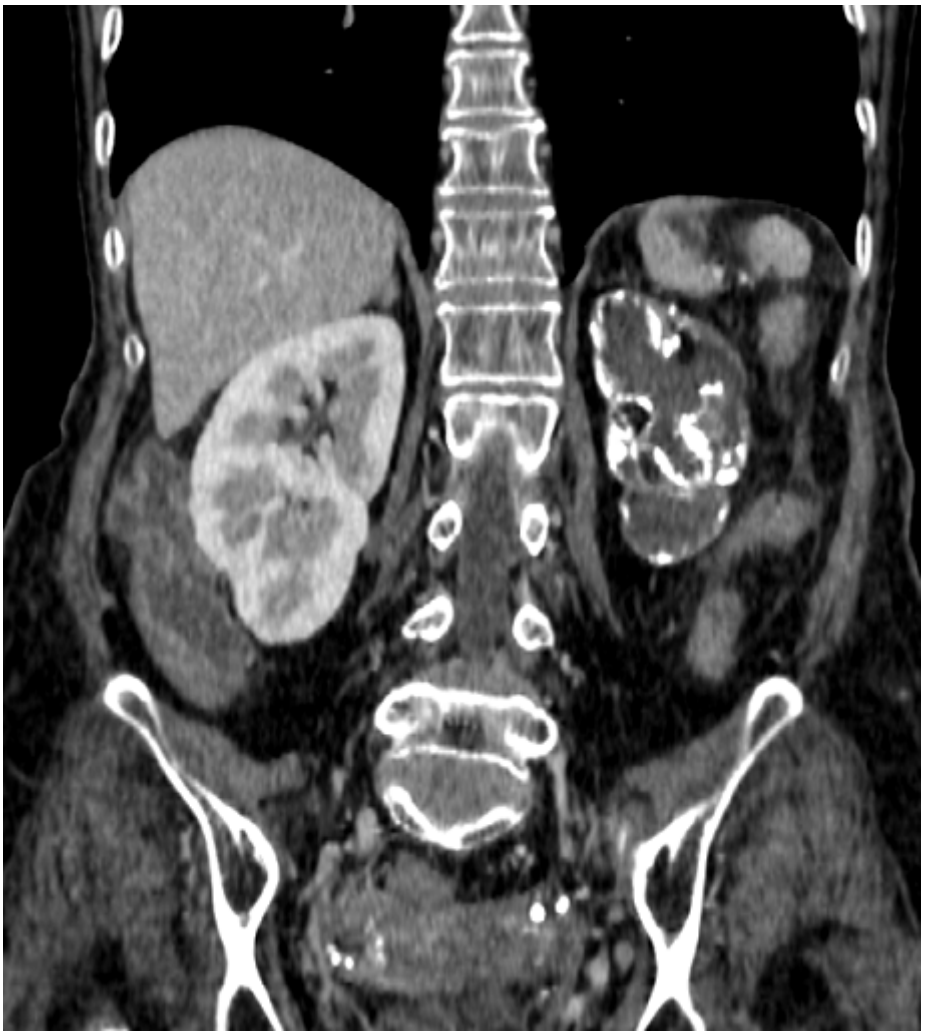
a



Description: 3D VRT image reconstructed from non contrast CT abdomen showing deformed left kidney with diffuse cortical calcification suggestive of putty kidney. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

Figure 3

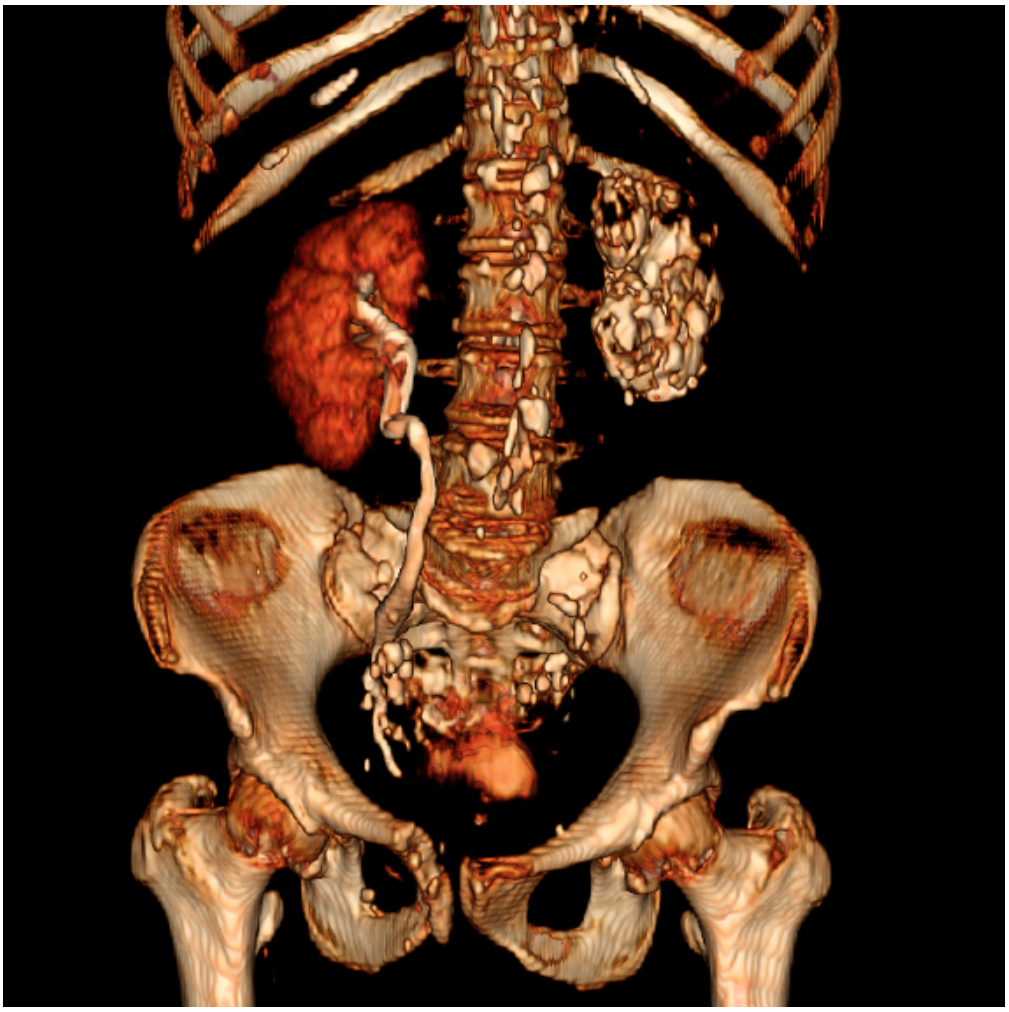
a



Description: Contrast enhanced CT abdomen showing relatively small left kidney with diffuse cortical calcification and no enhancement of renal parenchyma. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

Figure 4

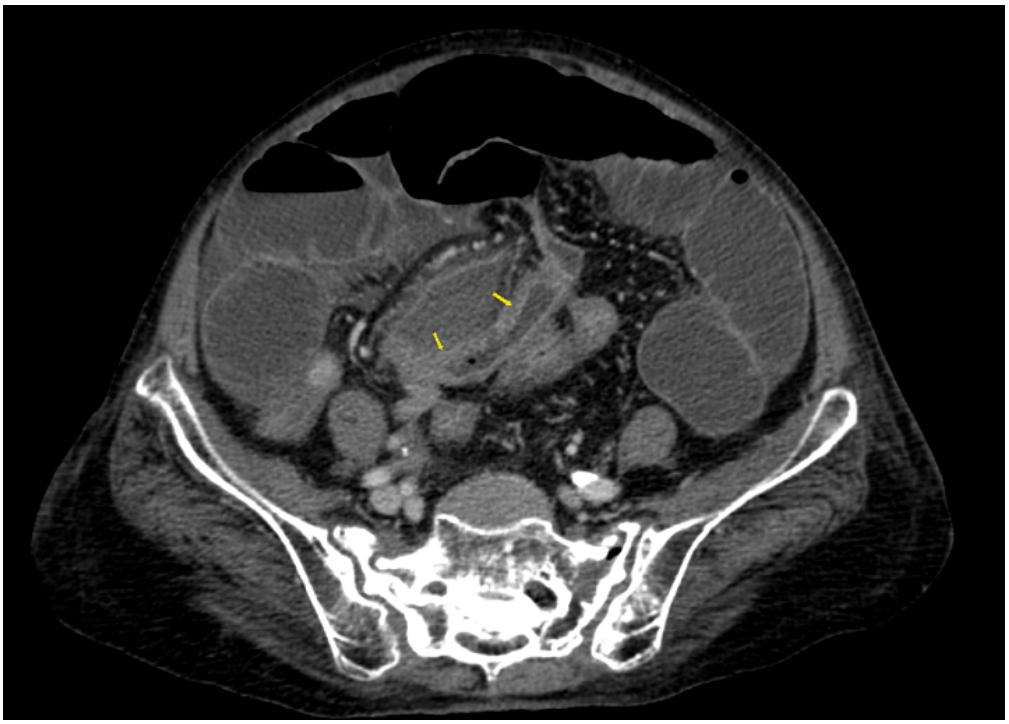
a



Description: 3D VRT image reconstructed from excretory phase study showing no excretion of contrast from the left side. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

Figure 5

a



Description: Contrast enhanced CT abdomen showing diffuse wall thickening of terminal ileum with collection in the adjacent mesentery abutting the thickened ileal loop. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

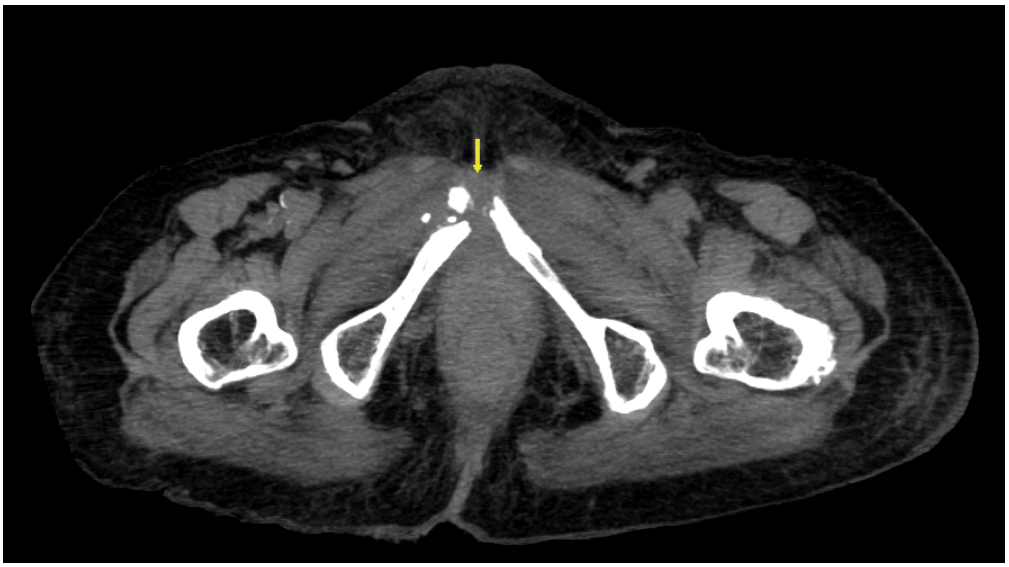
Figure 6

a

Description: Contrast enhanced CT abdomen soft tissue window coronal view showing dilated small bowel loops suggestive of intestinal obstruction. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.

Figure 7

a



Description: Contrast enhanced CT abdomen axial view showing destruction of pubic bone on either side of pubis symphysis with associated soft tissue component. **Origin:** © Department of Radiodiagnosis and Imaging, Grande International Hospital, Kathmandu, Nepal.