QUIZ 2

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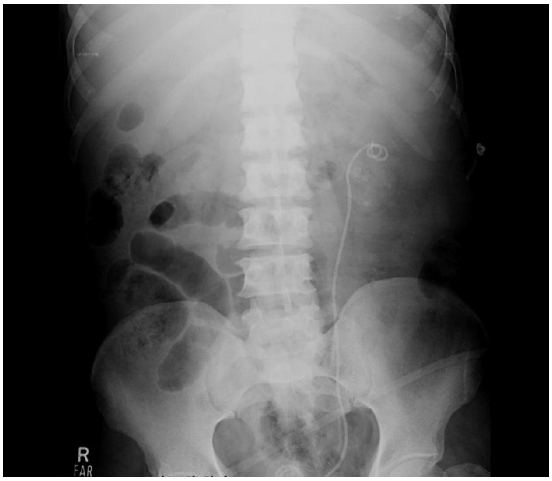

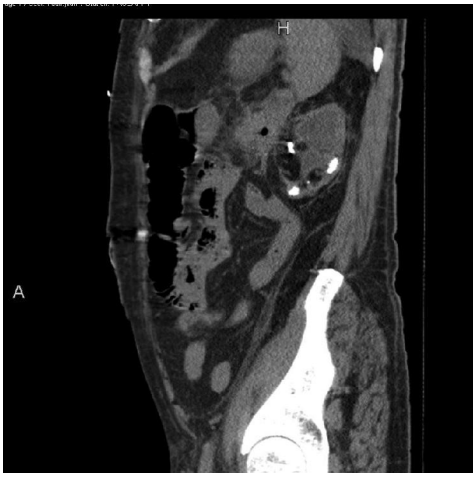

Questions

Q1. Which conditions can present in similar way?

Q2. Which modality should be the next investigation of choice after conventional radiography?

Q3. What is the CT classification of this condition?

Q4. What is the prognostic significance of CT classification of this condition?

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Answers

Answer 1: Conventional radiography can show the presence of gas in right renal and left renal areas. Gas may be within the parenchyma of solid organs or the walls of hollow viscera in various conditions such emphysematous gastritis, gastric emphysema, emphysematous cholecystitis, emphysematous pancreatitis and other renal complications including emphysematous pyelonephritis and pyelitis.

Answer 2: After plain X-rays, ultrasound examination may be used as the first modality, however bowel gas in perinephric space and calculi can make examination difficult. Secondly ultrasound may underestimate the depth of parenchymal involvement. CT with contrast is the preferred modality. It can confirm the presence and extent of parenchymal gas, identify the source of obstruction and help in differentiating this condition from other disease process which present in similar radiographic presentation on conventional radiography. Use of contrast will help identify areas of focal tissue necrosis or abscess.

Answer 3: Proposed CT classification divides emphysematous pyelonephritis into two types. Type I is characterized by parenchymal destruction with streaky or mottled gas collections in interstitium of renal parenchyma radiating from medulla to cortex, crescent of subcapsular or perinephric gas however no fluid collection. Type II is characterized by bubbly or loculated intrarenal gas within the parenchyma, gas within the collecting system in all cases and presence of associated renal or perirenal fluid collections.

Answer 4: Type I emphysematous pyelonephritis has a 69% mortality rate versus 18% for type II, although transformation from type I to type II has been observed following conservative treatment.

References

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2. Wan YL, Lee TY, Bullard MJ, Tsai CC. Acute gas-producing bacterial renal infection: correlation between imaging findings and clinical outcome. Radiology 1996; **198:** 433–438.