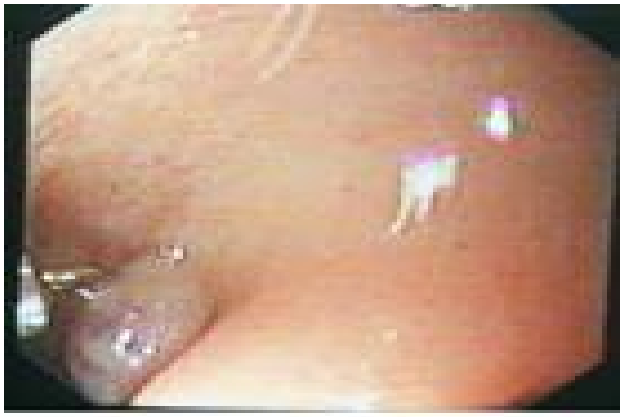
Figures 2a and 2b: Submucosal saline solution injection of duodenal hemangioma



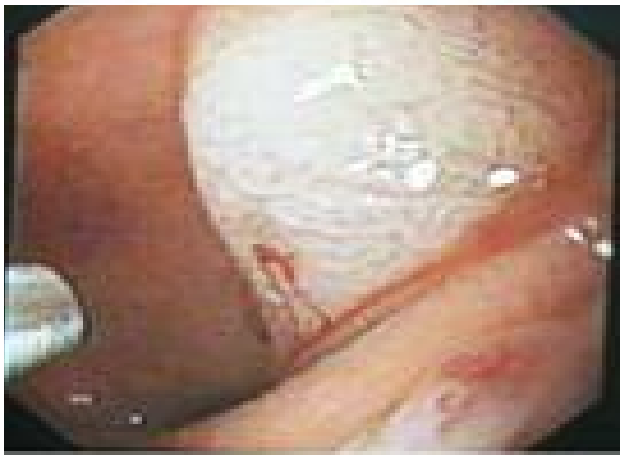
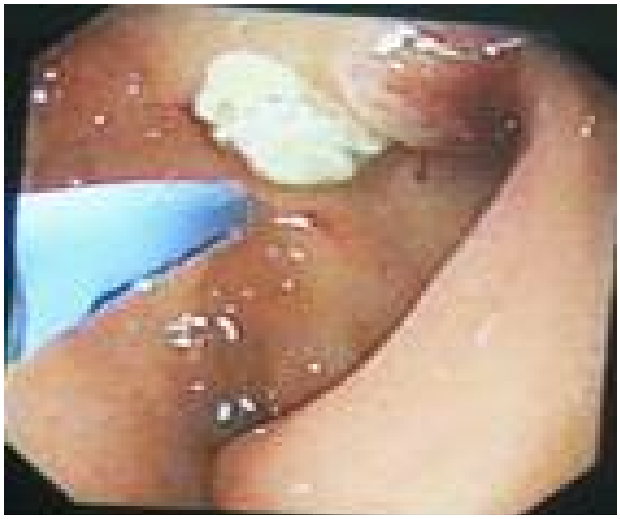


Figure 3: Destruction with argon plasma coagulation after submucosal saline solution injection



Conclusion

APC is a safe and effective shallow coagulation over extensive areas. The rapid disappearance of the hemangiomas in our patient after APC treatment within such a short period of follow up indicates that it is a valid option for this rare condition. Another potential advantage of APC is the availability of a small-diameter (1.5 mm) APC probe, which can be used with endoscopes with 2.2 mm diameter or smaller accessory channels. So it can be performed in small infants and neonates. Surveillance and repeated treatment are deemed to be necessary because of the likelihood of further lesions later in life.

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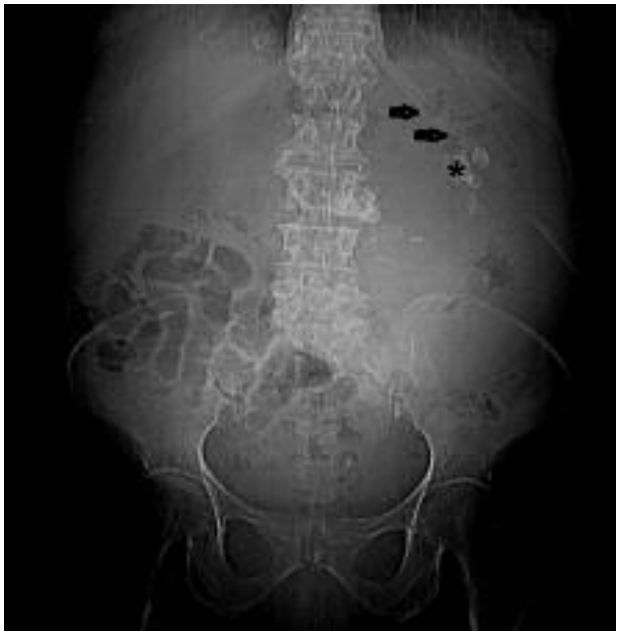
Association of renal cell carcinoma and staghorn calculi complicated with emphysematous pyelonephritis

Emphysematous pyelonephritis (EPN) is a rare, severe, rapidly progressive, life-threatening, acute necrotizing infection of the kidneys characterized by the presence of gas in the collecting system, renal parenchyma or the perirenal tissues (1,2).
Its pathogenesis is poorly understood. It usually occurs in elderly female patients with uncontrolled diabetes mellitus (3) and, less frequently, in association to obstructive uropathy (2,4). Although, its association with calculus disease was well documented (1), association with cancer of the kidney and urinary tract are rare and was reported in only four cases (4-7). In general, EPN had a fulminant course, as most cases are recognized late and often presented with symptoms of severe acute pyelonephritis, urosepsis or shock (4).
Prompt recognition and management are the keys to survival. Computerized tomography (CT) is the imaging procedure of choice in staging of the disease and guiding management (1).
The best treatment was often an immediate nephrectomy. With endourolgy and pharmacology advances, more and more cases of effective conservative treatment with antibiotic therapy and percutaneous (8) and /or stent drainage (9) are reported, resulting in renal salvage.
Nephrectomy is actually indicated only for poor responders

after adequate attempts at stabilization (2).
In the best of our knowledge, association of renal cancer and staghorn calculi complicated with EPN in the same kidney, has not been reported previously. Herein we present a case.

Case report
A 68-year-old woman, who was deaf and blind, presented to the emergency room with complaints of appetite loss, asthenia, vomiting, pain of the left side upper abdomen and fever with chills for the previous 7 days. Past history revealed that she underwent a cholecystectomy about two years back and poorly controlled diabetes mellitus for 6 years but no history of other systemic diseases or gross haematuria. At the emergency room, the patient was conscious, pale and ill-looking with a body temperature of 38°C, pulse rate of 82/min, respiratory rate of 32/min and blood pressure of 100/70 mmHg. Physical examination revealed left lumbar fossa tenderness. No palpable mass nor flank crepitus were noted.
Her initial laboratory investigations revealed hemoglobin; 4,8 g/dL, WBC count; 20,400, blood glucose: 2.34 g/L, blood urea nitrogen: 0,33g/ L, creatinine: 8 mg/L, serum Na +: 129 mmol/ L, K +: 3.8 mmol/L Cl-: 92 mmol/L, high C-reactive protein level: 237 mg/L and LDH: 424 U/L.
X-ray kidney-ueter-bladder (KUB) revealed many large radio-opaque shadows in the left renal area with mottled gas shadows (Figure 1) which were mistaken for bowel gas.
She was admitted with the diagnosis of left acute pyelonephritis and antibacterial therapy was initiated. Initial antibiotic treatment was as follows: intravenous cefotaxime (4 g/day), gentamicin (160 mg/day) and metronidazole (800 mg/day). She was also managed by oxygen inhalation, intravenous fluids, sugar control, electrolyte and acidosis correction.

Figure 1: KUB film: mottled gas sha¬dows (arrow) in the left renal area with many large radio-opaque shadows (asterix).



After 3 days of parenteral antibiotics, her conditions did not improve, she was admitted to Intensive care unit as she developed a septic shock which require intensive resuscitation. Utrasound with Doppler demonstrated a lower pole heterogenous vascularized mass with the presence of strong focal echoes suggesting intraparenchymal gas and renal stone (Figure 2). CT scan showed left staghorn calculi causing hydonephrosis with gas in the collecting system, parenchyma and extension of gas into the perinephric space within the Gerota fascia (Figure 3-4). The diagnosis of EPN was then concluded. It was EPN Type I according to Wan classification (10) and Class 3a according to Huang classification (11). CT revealed also two lower pole tumors (8,7x7x6,7 and 3,6x3,7x3,8 cm respectively) without peri-renal involvement, para-aortic lymphadenopathy or venous thrombosis. The right kidney was normal.

Figure 2: Utrasonography: renal stone (black arrow) with multiple strong focal echoes (intraparenchymal gas) (white arrow).

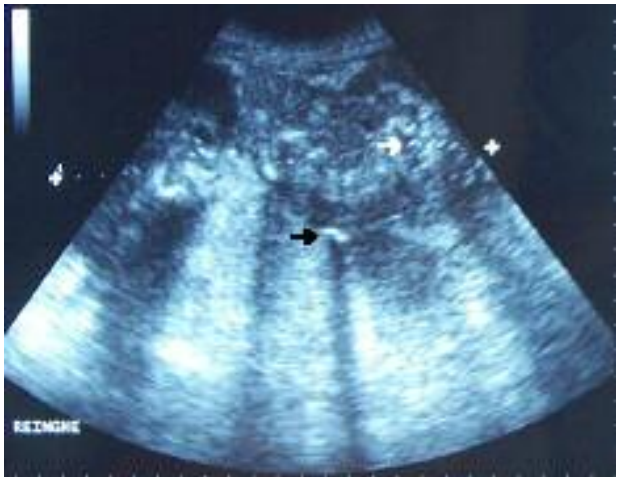


Figure 3-4: CT scan: Left hydronephrosis with gas (arrow) in the collecting system, renal parenchyma and the perinephric space; staghron urinary stone (black asterix) and lower pole tumor (red asterix).

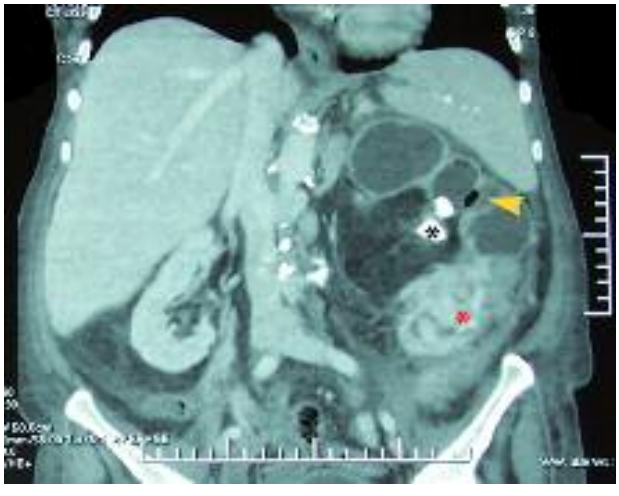
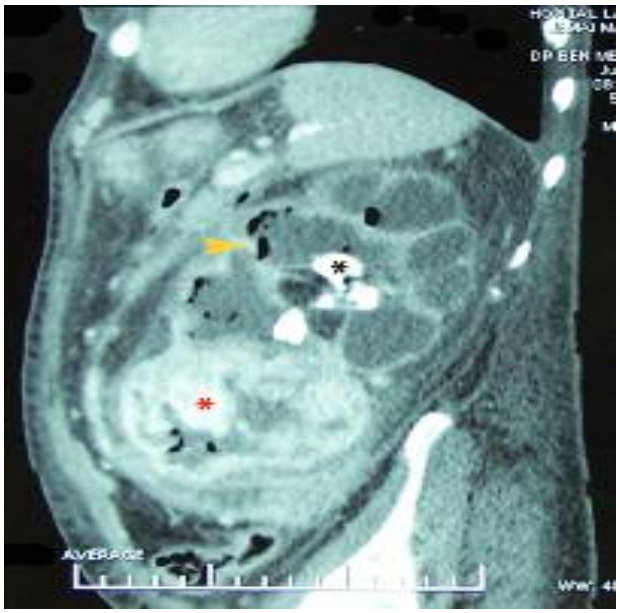


Figure 3-4: CT scan: Left hydronephrosis with gas (arrow) in the collecting system, renal parenchyma and the perinephric space; staghron urinary stone (black asterix) and lower pole tumor (red asterix).



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A percutaneous nephrostomy was considered but was not done as there was a lurking suspicions of a renal cancer.

As the patient's condition rapidly worsened, considering failure in treatment of this septic condition and the high suspicion of renal malignancy, an emergency left radical nephrectomy was performed. Intraoperative findings demonstrated a tumor developed at the lower pole of the kidney, a thick pus within the renal cavities and severe adhesion to surrounding structures. She was transfused with red blood cells and parenteral antibiotherapy was continued for 7 days.

At the 4th POD, the WBC count, C-reactive protein level, and body temperature were within normal limits, and there were no symptoms of infection. Urine and blood cultures were positive for the same Escherichia coli sensitive to antibiotics. However, the pus culture was sterile. The pathology revealed a poorly-differentiated chromophobe renal cell carcinoma of the left kidney (20x10x7 cm), stage T3N0Mx.

Postoperative follow-up was uneventful and the patient recovered without any complication.

She was discharged from the hospital after 5 days. She is doing fine on a further follow up of five months with no evidence of any metastatic disease or renal failure.

Conclusion

EPN is a rare condition. In the best of our knowledge, its association with renal cancer was not reported before in the English literature. Through this case report we alert the treating urologist and surgeon to the fact that EPN may be a silent manifestation of renal cancer or associated with a renal cancer. Thus, renal cancer must be excluded before indicating a conservative treatment in EPN.

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