EMPHYSEMATOUS PYELONEPHRITIS

A CAUSE OF ACUTE KIDNEY INJURY

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Emphysematous pyelonephritis is an acute necrotising infection of the renal parenchyma characterized by gas formation within the collecting system, renal parenchyma and/or perinephric tissues.

Poor glycemic control and urinary tract obstruction are identified predisposing factors. Most patients present symptomatically with fever and abdominal, flank or back pain consistent with signs of pyelonephritis. Thrombocytopenia (46%), acute kidney injury (35%), changes in the state of consciousness (19%) and shock (29%) can also occur.

CLINICAL CASE

54 year old

Type 2 Diabetes Mellitus (HbA1c 12%)

Emergency department →

Fever
Nausea
Vomiting

1 week of evolution

Leukocytes 10^3/uL	CRP mg/dL	Urea mg/dL	Creatinine mg/dL
17.9	32.2	262	6.7

Kidney Ultrasound: *"Right border with aspects suggestive of a local inflamatory process"*

Acute pyelonephritis and akute kidney injury was admitted

- ✓ Amoxicillin/clavulanic acid
- ✓ Kidney disease study – without other relevant alterations

3rd day
Lack of clinical and laboratory improvement
Started ertapenem

→

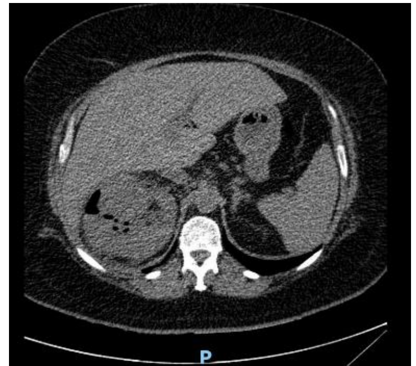
8th day
High inflamatory parameters
Nitrogen retension
(Cr 5.6mg/dl; Ureia 197mg/dL)
Repeat kidney ultrasound

Kidney Ultrasound: "On the right side, diffusely hypoechogenic with predominantly pericapsular, intraparenchymal gaseous artifact, revealing complications by EP"

Abdominal CT: "Diffuse emphysematous pyelonephritis on the right"

Right nephrectomy was performed with gradual improvement in inflammatory parameters and renal function.

At discharge: Cr 1.6 mg/dL; urea 38mg/dL;



Emphysematous pyelonephritis on the right kidney

Emphysematous pyelonephritis is potentially fatal. It is known that when associated with acute kidney injury, thrombocytopenia, altered state of consciousness or shock is associated with a worse prognosis. There are no pathognomonic signs or symptoms of EP. **Diagnosis should be considered in cases of pyelonephritis that do not respond to conventional therapy, especially in diabetics. Thinking about this entity and detecting it early is fundamental for a favorable clinical evolution.**

39th Vicenza Course on AKI & CRRT
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