

Case	(603) Acute pyelonephritis in the emergency room: utility of contrast-enhanced ultrasound (ceus).
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CASE PRESENTATION

A 45-year-old diabetic and hypertensive patient with a clinic history of right renal ectopia and recurrent pyelonephritis. She was admitted to emergency room due to fever of 6 days of evolution, lumbar pain and disuria, with antibiotic treatment for 2 days without improvement.

They request urgent abdominal ultrasound (US) with right pyelonephritis suspicion. Abdominal US showed right renal ectopia with known malrotation and mild hydronephrosis without identifying an obstructive cause. Adequate corticomedullary differentiation is observed without identifying areas of impaired ecogenity. In Power Doppler an area of hypoperfusion is identified in the lower pole of the right kidney.

This findings are suggestive of focus of pyelonephritis and decided complete study with CEUS after administering 2.4 ml of Sonovue flushed with 10 mL of saline. A cortical non enhancing area is confirmed and suggestive focal pyelonephritis. The patient is admitted to the urology service with intravenous antibiotic treatment.

DISCUSSION

Acute pyelonephritis (APN) is a urinary tract infection that involve the renal pelvis and parenchyma and is a common disease diagnosis on the basis of characteristic clinical features and abnormal labo

ratory values. Imaging study is required when complication is suspected (after 72 hours of intravenous antibiotic treatment without improve) or in high-risk patients

(immunocompromised, diabetics or elderly). Most frequent findings in grey scale US is a focal change in echogenicity of parenchyma due to edema (hypoechoic) or hemorrhage (hyperechoic) and hypovascular area on power Doppler.

Unfortunately, most patients with clinically suspected PNA have negative results from US. CT is the main imaging tool, that provides highly specific findings. Because of most cases of PNA are very young, CEUS is an alternative that can be proven to be equally accurate without exposure to ionising radiation.

US agents are sulphur hexafluoride-filled microbubble not excreted by kidneys, so they are not contraindicated in patients with poor renal function and are very well tolerated with minimal contraindications and anaphylactoid reactions are practically non-existent.

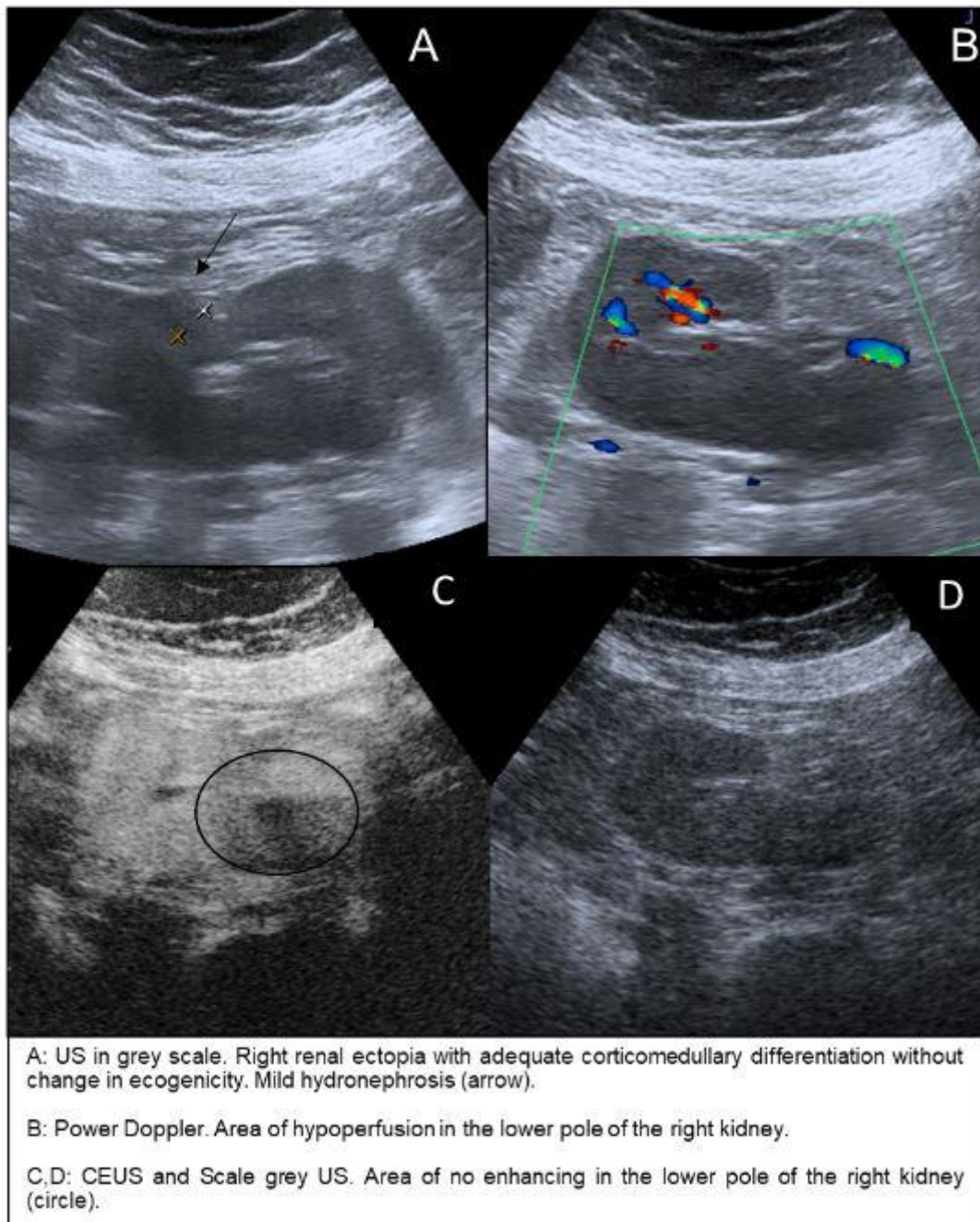
The CEUS imaging criteria to diagnose PNA focal were the presence of a cortical/corticomedullary focal wedge-shaped less enhancing compared to the surrounding parenchyma.

CONCLUSION

PNA are most frequent in young population, so CEUS is an imaging alternative without exposure to ionising radiation and well tolerated with minimal contraindications, so can be performed under urgent condition.

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