

QUIZ SECTION
ANSWER TO QUIZ NO 1 (PMR VOL 5 NO 1 MARCH 2011)

Ultrasound images in the Quiz shows swollen right kidney with severe hydronephrosis and parenchymal thinning secondary to a large right renal calculus in renal pelvis. The calculus shows characteristic posterior acoustic shadowing. In addition, the right renal pelvicalyceal system shows large amount of echogenic debris surrounded by anechoic fluid. The left kidney is normal in size, shape and contour and shows no evidence of hydronephrosis. Provisional diagnosis of diffuse right renal Xanthogranulomatous pyelonephritis was given on ultrasound. Blood picture showed leucocytosis, renal function tests were mildly deranged. The patient underwent right nephrectomy outside, and was proved to be Xanthogranulomatous pyelonephritis. Xanthogranulomatous pyelonephritis is an uncommon form of renal granulomatous inflammatory condition, predominant in females; characterized by lipid laden macrophages secondary to chronic infection associated

with renal calculi especially in diabetic patients. The patient presents with flank pain, fever, Dysuria, leucocytosis. Urine culture is usually positive. *Proteus mirabilis* is the usual causative organism, though *E. coli*, *Staph. Aureus*, *Klebsiella* species have also been found to be the culprits. Though few patients are cured with antibiotic course, most of the patients require surgery.

Differential diagnosis on imaging is: 1) Acute pyelonephritis 2) Lobar nephronia 3) Renal blood clots 4) Renal carcinoma

References:

- 1) Jongchul Kim, Ultrasonographic features of focal Xanthogranulomatous pyelonephritis, *J Ultrasound Med* 2004; 23: 409-416
- 2) K Ramboer et al, Focal Xanthogranulomatous pyelonephritis mimicking as renal tumour- CT and MR findings and evolution under therapy, *Nephrol Dial Transplant*, 1997; 12: 1028-1030.

