

Xanthogranulomous Pyelonephritis Mimicry Renal Cell Carcinoma: A Case Report And Review of Relevant Literatures

Ayodele J Omotoso¹, Edet E Ikpi², Anthonia Ikpeme³, Glen², Godstime Irabor¹
^{1,2,3}Department of Pathology, University Of Calabar, Calabar

Abstract:

Introduction: Xanthogranulomatous pyelonephritis is a relatively rare form of chronic pyelonephritis characterized by chronic suppurative renal inflammation¹. The name derives from the yellow gross appearance of the nodular renal lesions, which results from the presence of numerous lipid-laden foamy macrophages (xanthoma cells). There are cases in which only a portion of the kidney, such as one pole, is involved. This condition is mostly unilateral, although rare bilateral cases have also been reported². This disease can occur at any age but is more common in adults in the fifth to the seventh decades². The lesion is destructive and may obliterate renal parenchyma within the affected areas. *Escherichia coli*, *Proteus mirabilis* and *Pseudomonas sp* are the usual etiologic agent^{1,2}. Grossly the lesions sometimes produce large, yellowish orange nodules that may be grossly confused with renal cell carcinoma. Light microscopy shows tubular dilation and atrophy, with many tubules containing eosinophilic hyaline casts resembling the colloid of thyroid follicles (so-called thyroidization)^{2,5}. The interstitium is scarred and contains a chronic inflammatory cell infiltrate.

Patients usually present late, urinary tract obstruction is usually associated with this condition. The disease is of insidious onset. There are features of recurrent acute pyelonephritis such as fever, back pain, frequent pyuria. The condition may be complicated by loss of tubular function characterised by polyuria and nocturia. Radiologic investigations reveal asymmetrically contracted kidney with coarse scars, blunting and deformity of the calyceal system. CT scanning shows up intrarenal abscesses as lucent areas within the kidney. Nephrectomy is the treatment of choice; antibacterial treatment rarely, if ever, eradicates the infection⁵.

A study done by MattaceRacey D et al shows that the most frequent symptom of the patients with Xanthogranulomatous pyelonephritis is flank pain and 40% of cases were caused by *Proteus Mirabilis* while 30% of cases were caused by *E. Coli*^{3, 4}. Also, a study by Rajesh A et al found that unilateral renal enlargement and inflammation were the most consistent findings on computed tomographic scan in patient with xanthogranulomatous pyelonephritis⁴. A study done by Tsai K et al shows bilateral renal lesion with subtle manifestations⁷.

I. Case report:??

Figure 1: section showing the ultra sonography of the patient

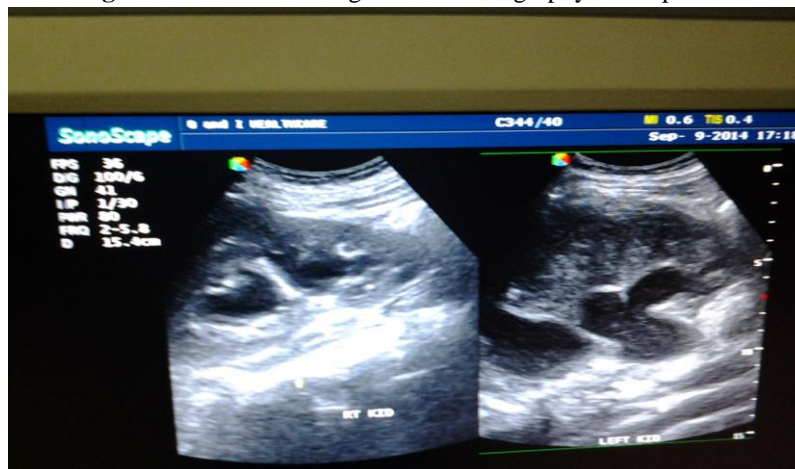


Figure 2: section showing the plain x-ray of the patient

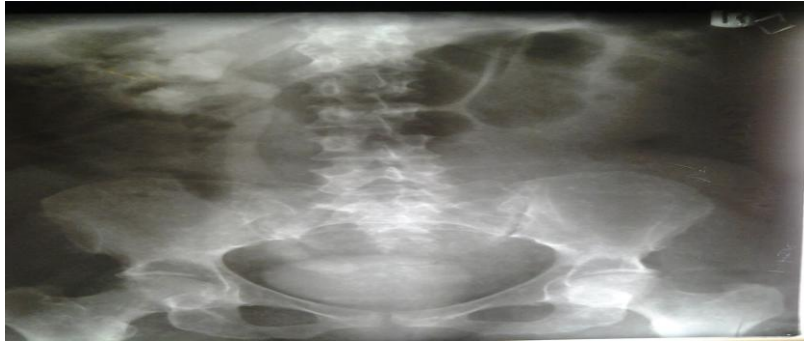


Figure 3: section showing the CT scan

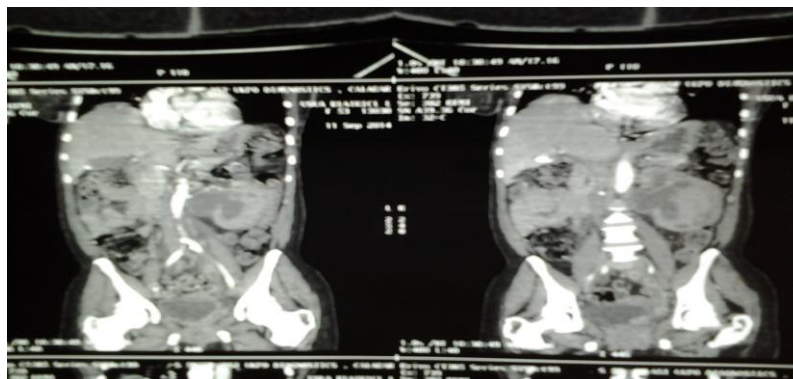


Figure 4: Section showing the lateral view of the kidney. The capsule of the kidney stripped with ease to revealed smooth sub cortical surface with an irregular mass at the convex region of the kidney.



Figure 5: Section shows the cut surface of the kidney. There is a well defined greyish white extending from the cortex to the medular. The surface shows areas of necrosis, haemorrhage and areas with golden yellow appearance.



Figure 6: Histological section of the kidney showing glomeruli of normal architecture surrounded by tubule filled with secretion and inflammatory cells.

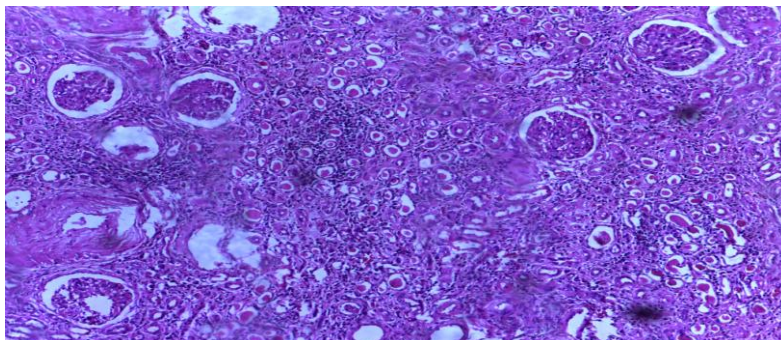


Figure 7: Kidney section with “throidization” of the tubules

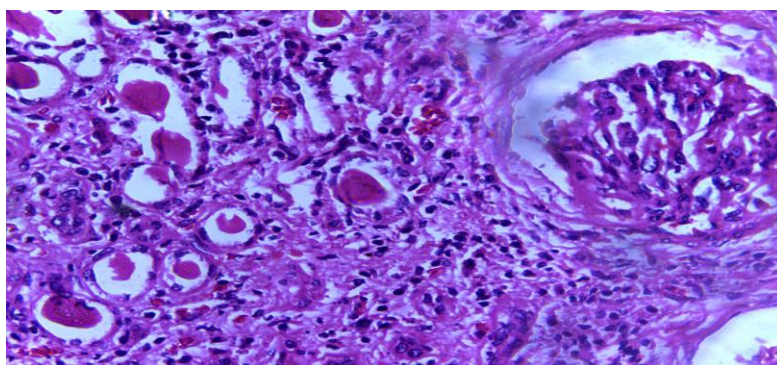
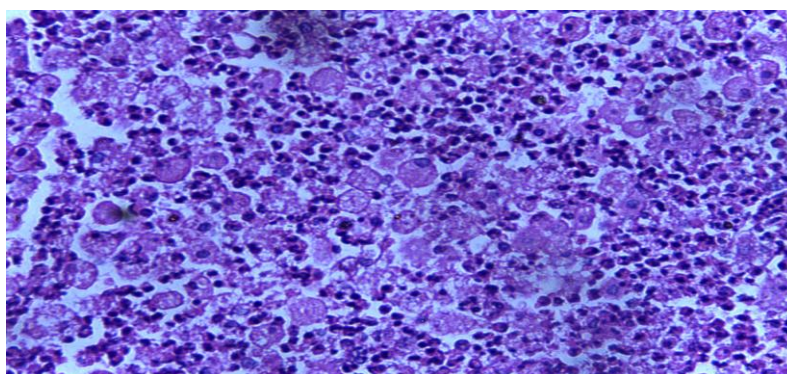


Figure 8: section of the kidney with diffuse infiltration by xanthomatous cells



DISCUSSION??

CONCLUSION??

Reference

- [1]. Kumar V, Abbas A, Fausto N, editors. Robbins and Cotran Pathologic Basis of Disease. 8th ed. Philadelphia, Pa: Saunders Elsevier; 2010
- [2]. Rosai J, Tubulointerstitial disease, Rosai and Acerman’s surgical pathology, Rosai, 10th edition, 2011; p1160.
- [3]. MattaceRaso D, Autorino R, Schiario M, D’Armiento M. Xanthogranulomatous pyelonephritis, Our experience and review of the literature. The Italian journal of urology and nephrology (impact factor 0.7). 01/2001; 52(4): 173-8.
- [4]. Rajesh A, Jakanani G, Mayer N, Mulcahy K. Computed Tomography Findings in Xanthogranulomatous Pyelonephritis. J Clin Imaging Sci [serial online] 2011 [cited 2015 Jan 8];1:45. Available from: <http://www.clinicalimagingscience.org/text.asp?2011/1/1/45/84323>
- [5]. Rubin R and Strayer DS, Editors. Chronic Pyelonephritis, Rubin’s Pathology, clinico-pathologic foundation of medicine, 5th edition. Lippincott and Williams; 2012: p732.
- [6]. Li Li and Anil V. Parwani , Xanthogranulomatous pyelonephritis. Archives of pathology and laboratory medicine: May 2011, vol. 135, No. 5, pp.671 – 674.
- [7]. Tsai K, Lai M, Shen S, Yang A, Su N et al, Bilateral Xanthogranulomatous pyelonephritis, J of Chinese Med Assoc, June 2008, 71(6);310-14.
- [8]. Kumar P J and Clark M L(Editors). Urinary tract infection, Kumar and Clark’s Clinical Medicine, 6th edition. Edinburgh: Saunders, 2002. p643.