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Incidental autopsy finding of Renal Cell Carcinoma in a young prisoner-A case report

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Abstract:
Renal cell carcinoma arises from the epithelium of the renal tubules and accounts for approximately 3% of adult malignancies. The tumors occur most often in older individuals usually in sixth and seventh decades of life. In the second decade RCC is rare. It is more than twice as common in males as in females. We present a case of 20 year old healthy looking male prisoner who was suddenly collapsed and died. On pathological autopsy clear cell variant of renal cell carcinoma was the incidental finding.

Key Words:

Incidental finding, renal cell carcinoma, sudden death, young prisoner.

Introduction:

Renal cell carcinoma is the most common renal tumor in adults with mean age of 62 years at occurrence [(1)]. Only 3.4-7.5% of all kidney tumors in adults occur below the age of 40 years [(2)]. Although most renal cell carcinomas are sporadic and relatively uncommon in young adults, incidence of RCC in this age group has steadily increased during the last few decades [(3,4)]. It is now believed that renal tumors in young adults differ from their counterparts in older adults in clinical behavior, histology and the outcome [(5,6)].

Case report:

A healthy young male prisoner aged 20 years was suddenly collapsed and all resuscitation measures were failed to save his life. His body was sent for pathological autopsy. After medico legal autopsy his body organs were sent for histopathological examination. We received specimens of kidney, lung, spleen, pancreas, liver and heart. All organs were grossly normal except kidney which was received in piecemeal and showed dark brown to gray white lesion at one pole (Figure 1).

Figure 1: Gross picture showing dark brown to gray white lesion at one pole.

Microscopic examination of lesion shows lobulated lesion with sheets and nests of cells separated by delicate fibrous septae (Figure 2).

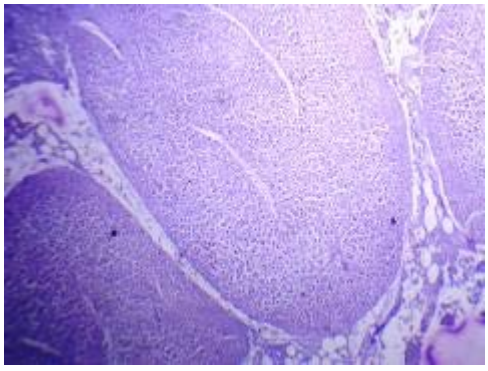

Figure 2: Sheets and nests of clear cells separated by delicate fibrous septae (H and E, ×200).

The cells are round to polygonal with clear cytoplasm and round nucleus. Some of the nuclei are hyper chromatic with chromatin changes (Figure 3).

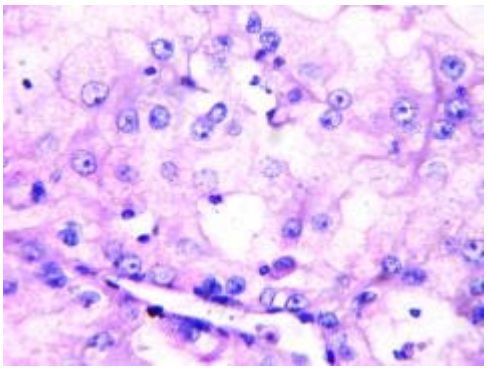

Figure 3: The cells are round to polygonal with clear cytoplasm and round nucleus. Some of the

nuclei are hyper chromatic with chromatin changes (H and E, ×400).

There are also areas of necrosis seen. Clear cell variant of renal cell carcinoma was the histopathological diagnosis given.Microscopic findings of other organs were nil remarkable.

Discussion:

Clear cell renal cell carcinoma is the most common histological variant, accounting for 75-88% of renal cell carcinoma [(7)]. Average age at diagnosis of Clear cell renal cell carcinoma is 60-64 years[(7,8)]. However, 7% of sporadic Clear cell Renal cell carcinoma is diagnosed in patients younger than 40 years [(9)] and rare cases have been reported in patients aged 14-18years without evidence of familial disorders.

Smoking, obesity and hypertension are three well established risk factors associated with development of sporadic renal cell carcinoma. Only 1-5% renal cell carcinoma is associated with recognized hereditary genetic disorders[(10)]. Von Hipper Landau disease is the main inherited and predisposing disorder to Clear cell Renal cell carcinoma, in which there is germ line mutation of VHL gene at chromosome 3p-25[(11)]. Other familial disorders that carry an increased risk for development of Clear cell renal cell carcinoma are constitutional chromosome 3 translocations[(12)], Tuberous sclerosis complex and Birt-Hogg-Dube syndrome. Hallmarks of hereditary tumors are tumor multifocality, bilaterality and early age at onset.

Clear cell renal cell carcinoma is more likely to be symptomtic at presentation compared with other histological variants of renal cell carcinoma [13)]. Most common signs and symptoms include anemia(52%), Hepatic dysfunction(32%), Gross haematuria(24%), weight loss(23%), hypoalbuminemia(20%), flank pain(20%), malaise(19%), hypercalcemia(13%). However approximately 46% of patients with Renal cell carcinoma are asymptomatic , with the tumor diagnosed incidentally during abdominal radiological imaging for unrelated symptoms[(14)].
Clear cell Renal cell carcinoma is a renal cortical tumor typically characterized by malignant epithelial cells with clear cytoplasm and compact alveolar or acinar growth pattern interspersed with arborizing vasculature. A variable proportion of cells with granular eosinophilic cytoplasm may be present.
Close attention to morphological features, electron microscopy, immunohistochemistry, and cytogenic properties can help to distinguish Clear cell Renal cell carcinoma from papillary Renal cell carcinoma, chromophobe Renal cell carcinoma, Epithelioid variants of angiomyolipomas and adrenocortical carcinomas which usually resembles Clear cell Renal cell carcinoma histolgically.

Clear cell variant of renal cell carcinoma are usually immunoreactive with cytokeratin as well as epithelial membrane antigen. Also positive to CD10, RCC, Vimentin[(15)].

Renal cell carcinoma is the most virulent of all common types of renal cortical carcinomas. In younger age groups the prognosis of renal cell carcinoma is poor. Effective systemic therapy remains elusive, making surgical resection the best chance of cure.

Conclusion:

Clear cell Renal cell carcinoma is the most common renal tumor in adults, occur most often in older individuals. It is symptomatic in majority of cases and carries worse prognosis. We report this case because of its incidental diagnosis in autopsy and young age of the patient.

References:

1. Bretheau D, Koutani A, Lechevallier E, Coulange C. A French national epidemiologic survey on renal cell carcinoma. Oncology Committee of the Association Francaise d'Urologie. Cancer. 1998;82:538-44.

2. Ku JH, Moon KC, Kwak C, Kim HH. Disease-specific survival in patients with renal cell carcinoma: an audit of a large series from Korea. Jpn J Clin Oncol. 2011;41:110-4.

3. Chow WH, Devesa SS, Warren JL, Fraumeni JF, Jr. Rising incidence of renal cell cancer in the United States. JAMA. 1999;281:1628-31.

4. Kantor AL, Meigs JW, Heston JF, Flannery JT. Epidemiology of renal cell carcinoma in Connecticut, 1935-1973. J Natl Cancer Inst. 1976;57:495-500.

5. Denzinger S, Otto W, Burger M, et al. Sporadic renal cell carcinoma in young and elderly patients: are there different clinicopathological features and disease specific survival rates? World J Surg Oncol. 2007;5:16.

6. Thompson RH, Ordonez MA, Iasonos A, et al. Renal cell carcinoma in young and old patients--is there a difference? J Urol. 2008;180:1262-6; discussion 6.

7. Patard JJ, Leray E, Rioux-Leclercq N, et al. Prognostic value of histologic subtypes in renal cell carcinoma: a multicenter experience. J Clin Oncol. Apr 20 2005;23(12):2763-71.

8. Cheville JC, Lohse CM, Zincke H, Weaver AL, Blute ML. Comparisons of outcome and prognostic features among histologic subtypes of renal cell carcinoma. Am J Surg Pathol. May 2003;27(5):612-24.

9. Taccoen X, Valeri A, Descotes JL, et al. Renal cell carcinoma in adults 40 years old or less: young age is an independent prognostic factor for cancer-specific survival. Eur Urol. Apr 2007;51(4):980-7.

10.Duchene DA, Lotan Y, Cadeddu JA, Sagalowsky AI, Koeneman KS. Histopathology of surgically managed renal tumors: analysis of a contemporary series. Urology. Nov 2003;62(5):827-30.

11 . Maher ER. Von Hippel-Lindau disease. Curr Mol Med. Dec 2004;4(8):833-42.

12. Bonne AC, Bodmer D, Schoenmakers EF, van Ravenswaaij CM, Hoogerbrugge N, van Kessel AG. Chromosome 3 translocations and familial renal cell cancer. Curr Mol Med. Dec 2004;4(8):849-54.[Medline]

13. Lee CT, Katz J, Fearn PA, Russo P. Mode of presentation of renal cell carcinoma provides prognostic information. Urol Oncol. Jul-Aug 2002;7(4):135-40.

14. Kim HL, Belldegrun AS, Freitas DG, et al. Paraneoplastic signs and symptoms of renal cell carcinoma: implications for prognosis. J Urol. Nov 2003;170(5):1742-6.

15. Zhou M, Roma A, Magi-Galluzzi c. The usefulness of immunohistochemical markers in the differential diagnosis of renal neoplasm. Clin Lab Med, 2005; 25:247-257.