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Left Renal Tumour - Histopathogenesis

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Abstract: ***A benign tumour is a non-cancerous growth that does not spread (metastasize) to other parts of the body and is not usually life-threatening. Many researchers believe that most of the following types of kidney tumours are benign. However, others feel that some of these tumours have the potential to develop into renal cell carcinoma. There are no diagnostic tests that can confirm if a benign tumour has the potential to become cancerous. Benign tumours are sometimes found along with renal cell carcinoma when a removed kidney is examined by a pathologist. For these reasons, benign kidney tumours are treated like malignant tumours. In this case we have observed a male cadaver with a large tumour in the left kidney during our routine dissections of undergraduates.***

Keywords: Tumour, benign, kidney, malignant

1. Introduction

The types of benign tumours of the kidney are: Renal adenoma, Oncocytoma, and Angiolipoma.

Renal adenomas are the most common form of benign kidney tumour. They are small, low-grade growths, and do not usually cause any symptoms. **Oncocytoma**: It usually appears as a single tumour in one kidney and can grow into a large sized tumour. Sometimes these tumours may appear in both kidneys at the same time (bilateral) and in multiple places in the kidney(s). Oncocytoma tumours may be found at the same time as a malignant chromophobe renal cell carcinoma.

Oncocytoma tumours are more common in men over the age of 60.

Angiomyolipoma: It is a benign kidney tumour made up of fat, blood vessels and smooth muscle tissue. Even though it's benign, the tumour can spread into and destroy surrounding tissue. It can also cause sudden bleeding (hemorrhage) from the kidney into the abdomen. Bleeding is more likely with tumours that are larger than 4 cm (1-1/2 inches).There are 2 types of angiomyolipoma: sporadic, or isolated, angiomyolipoma accounts for 80% of angiomyolipomas occurs as a single tumour in one kidney are 4 times more common in women than in men angiomyolipoma associated with tuberous sclerosis accounts for 20% of angiomyolipomas occurs in both kidneys occurs as larger tumours and multiple tumours affects both sexes affects people at a younger age than sporadic angiomyolipoma often associated with " epithelioid variant" cell histology (cells that make up the membrane of the kidney)

Rare benign tumours: Other types of benign tumours that are rarely found in the kidney are: Fibroma, Lipoma Metanephric Adenoma.

Fibroma tumours start in the fibrous tissue covering the kidney. They are more common in women. **Lipoma** Lipoma tumours of the kidney start in the cells of the fat that surrounds the kidney. They are more common in middle-aged women. Lipoma tumours can grow to be quite large.

Metanephric adenoma: Renal metanephric adenomas occur mostly in young and middle-aged women. They may be associated with a condition in which the body makes too many red blood cells (polycythemia). Metanephric adenomas are solid, well-defined tumours that often have small deposits of calcium.

2. Observations

During our routine dissection for undergraduates in the Department Of Anatomy, Andhra Medical college, Visakhapatnam , We have come across a male cadaver with very large mass , reddish brown in color on the lower pole of Left Kidney measuring, about 7cms in length, 3cms in width, 4cms in thickness ,very hard to touch. The rest of the kidney is found to be normal. The Right Kidney is atrophied and shrunken.

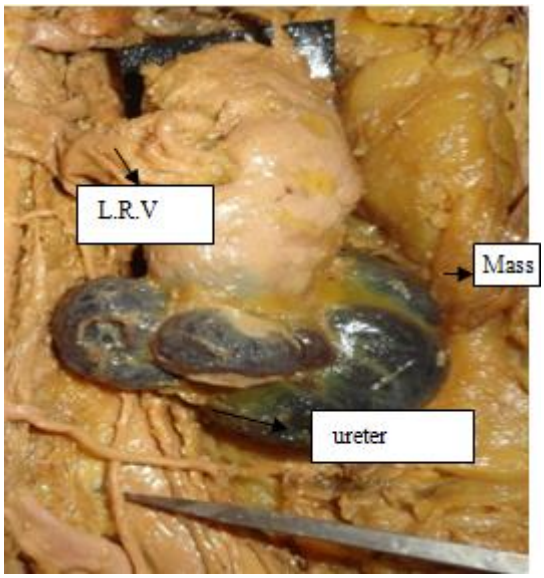


Figure 1: Left Kidney.

The Left ureter is normal. There are no anomalies in vascular pattern. The piece of the mass along with the kidney is sent for pathological report. Figure 2. It was found to be Angiomyolipoma consisting many thick walled large bloodvessels, smooth muscles and adipose tissue. **Angiomyolipomas** are the most common benign neoplasm composed of thick-walled vessels, smooth muscle and adipose tissue with spindle and epithelioid cells. Angiomyolipomas are caused by mutations in either the TSC1 or TSC2 genes, which govern cell growth and proliferation. May be sporadic but is associated with tuberous sclerosis also are seen hyalinised glomeruli, interstitial inflammatory tissue, growth site showing large blood vessels surrounded with smooth muscle cells. The Right Kidney showed – few hyalinised gomeruli and few normal glomeruli,and tubular degeneration. This shows kidneys are in end stage. Figure 3.and figure 4.

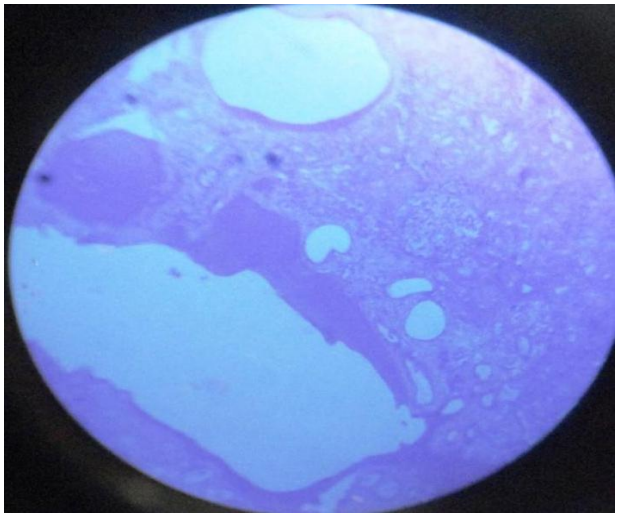
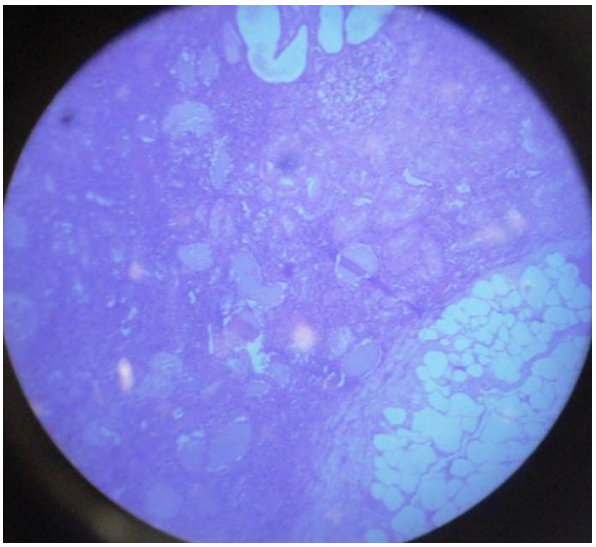


Figure 2: Blood vessels and more no. of smooth muscle cells seen

Figure 3: Right Kidney atrophied



Right Kidney: 1.Adipocytes 2. Hyalinised and normal glomeruli can be appreciated

3. Discussion

Angiomyolipomas tend to grow and become symptomatic. In previous studies, tumor growth was observed in 27%–53% of lesions smaller than 4 cm and in 46%–75% of lesions larger than 4 cm over a follow-up period of about 4 years . As the tumor grows, the blood flow entering the tumor increases, causing vessel dilatation and aneurysm formation and enlargement. It is not uncommon for more than one intervention to be required during lifetime. Since kidney function may already be impaired (up to half the kidney may be lost before function loss is detectable), it is vital to preserve as much kidney as possible when removing any lesion. Large angiomyolipomas are treated by embolisation which reduces the risk of haemorrhage and can also shrink the lesion. A side effect of this treatment is postembolisation syndrome: severe pain and fever however this is easily managed and lasts only a few days.[1] Sener. A *et al.* , in July 2009, reported a series of five cases where < 2.3 cm incidental renal masses were subjected to back table partial nephrectomy and transplanted into the matched recipients. Three of these lesions were renal cell carcinoma and two were angiomyolipoma. There was no evidence of cancer-specific mortality or recurrence at a 15-month follow-up. McHayleh *et al.* ,[3] in 2008, reported two cases of metastasis from renal cell carcinoma in a kidney allograft. Hence, many articles have been published regarding the use of grafts with renal malignancies. However, data on the management of benign renal masses in donor kidneys are few. In this present case they were accidently found during dissection. But pave way in future to look for them as there are cadaveric organ transplants frequently done.

4. Conclusion

Though the present case has such a large tumour, He was asymptomatic throught his life. His age as per records is 63, a destitute body admitted for encephalopathy. It's a rare case, who was asymptomatic as this kind of tumours are benign.

5. Acknowledgement

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