ORIGINAL RESEARCH PAPER

General Surgery

CASE REPORT OF ANGIOMYOLIPOMA OF RIGHT KIDNEY

KEY WORDS:

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ABSTRACT

We want to report here a case of Angiomyolipoma which was confirmed by histopathological examination of Growth over kidney . A 45 year old female patient was admitted to our hospital with Right flank pain , swelling over Right side flank region and Fever . Abdominal CT showed Large right renal angiomyolipoma complicated with intra lesional aneurysms and hemorrhage. On surgical exploration, growth was found arising from Lower pole of Right Kidney . Histologically features suggestive of growth of the kidney shows various amount of mature adipose tissue, smooth muscle and vasculature. Finally , a case of Angiomyolipoma had been established in this study by histopathological examination of Growth arising from Kidney .

INTRODUCTION :

Angiomyolipoma (AML) is a rare, non-cancerous tumor originating from the renal pelvis or sinus, comprising blood vessels, smooth muscle cells, and fat. It accounts for 2-6.4% of kidney tumors and primarily affects women aged 40-70 years. AML can appear as isolated lesions in 80-90% of cases or in association with tuberous sclerosis (TSC), an autosomal dominant disorder characterized by seizures, mental retardation, and benign tumors in various organs. TSC is linked to mutations in genes TSC1 and TSC2. Sporadic AMLs are typically unilateral and focal, while those associated with TSC are bilateral, multifocal, and can manifest at any age and in both sexes. AML is often asymptomatic and is usually detected incidentally through ultrasound or CT scans. In some cases, it may cause retroperitoneal hemorrhage in adults.

Case Report :

A 45 year old female patient presented with chief complain of Right flank pain , swelling over Right side flank region and Fever since 1 month.Physical examination showed enlarged right kidney with palpable tumor. There were no peritoneal symptoms. Blood tests were normal. There was no histopathological examination of the fineneedle aspiration biopsy before planned surgery. CT scan abdomen report showed A large lobulated heterogenous predominantly fat density lesion is seen in lower pole of right kidney approximately measuring 16 x 8 x 19 cm. The lesion shows intra luminal tortuous vessels, aneurysms approximately measuring 38 x 34 mm and 38 x 24 mm. An aneurysm shows surrounding hypodensity keeping with rupture concealed with surrounding thrombus. CT did not showed any metastatic lesions . The patient was taken to the operating room for an open right nephrectomy. During the surgical exploration claimed giant right kidney angiomyolipoma with rich network of vessels. Right kidney with giant tumor and adrenal adenoma were removed .Lower pole and renal pelvis are replaced by the tumor, measuring 17x 11x 8 cm^3. Tumor is well circumscribed and non encapsulated having pushing margin. which is yellowish-brown in color, soft in consistency, with areas of hemorrhage and necrosis. The material was sent for routine histopathological examination. The time of surgery was about 140 minutes. The specimen histopathologically revealed various amount of mature adipose tissue, smooth muscle and vasculature. Smooth muscle component shows fascicles of spindle cells, few having hyperchromatic nucleus. Few having enlarged nucleus with prominent nucleoli. Few smooth muscles radiate from the vessel wall. Vessels are thickened and hyalinized at places. Presence of marked area of hemorrhage and acute inflammatory cell infiltrate.Renal capsule and perinephric fat are free from tumor cell. At one focal place reactive vascular proliferation is seen in perinephric fat.

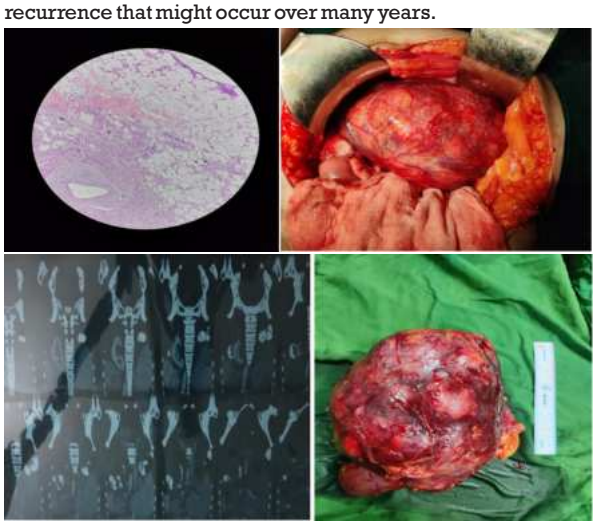
DISCUSSION :

Renal angiomyolipoma is a benign tumor derived from mesenchymal tissues, typically exhibiting a solid triphasic structure comprising dysmorphic blood vessels, smooth muscle components, and mature adipose tissue. It predominantly affects middle-aged women and constitutes about 3% of solid renal masses. Around 80% of cases are sporadic, while the remaining 20% are linked to tuberous sclerosis complex (TSC), an autosomal dominant disorder with variable prevalence (1/6,000 to 1/12,000 individuals), where 55-75% of TSC patients may develop renal angiomyolipomas. Other renal manifestations of TSC include cysts and occasionally renal cell carcinomas.In contrast to sporadic cases, hereditary angiomyolipomas affect both genders equally and typically manifest earlier (second or third decade), presenting as large, multiple, and often bilateral lesions that can grow aggressively, reaching up to 30cm in diameter. Renal angiomyolipoma is often discovered incidentally through imaging, with most patients being asymptomatic. Symptomatic cases commonly involve spontaneous retroperitoneal hemorrhage due to a hemorrhagic aneurysm, occurring in less than 15% of patients and posing a risk of hemodynamic instability.Imaging plays a crucial role in diagnosis, with adipose tissue detection being key. On ultrasound, angiomyolipomas appear markedly hyperechoic due to their fat content. CT scans, detecting fat with an attenuation less than −10 HU, confirm the diagnosis in 75–86% of cases. MRI can assess intravoxel fat content, and the "Indian ink artifact" on MRI indicates an angiomyolipoma.While imaging usually suffices for diagnosis, percutaneous biopsy may be considered in uncertain cases, although it's not commonly used due to management considerations. HMB45 immunoreactivity is characteristic and aids in distinguishing angiomyolipoma from other tumors.Management depends on symptoms and tumor size. Intervention is warranted for symptomatic cases or suspicion of malignancy. Selective arterial embolization is first-line for larger tumors to reduce hemorrhage risk. Surgery, typically nephron-sparing, is indicated for persistent hemorrhage, failed embolization, or suspected malignancy.Total nephrectomy is reserved for life-threatening hemorrhage or extensive tissue replacement.Overall, renal angiomyolipoma, though benign, requires careful management tailored to individual clinical

presentations and imaging findings.

CONCLUSION :

DFSP is a rare soft-tissue malignant tumor, characterized by a low risk of metastasis with a high potential for local invasion and recurrence. The clinical awareness of this entity is crucial allowing an early diagnosis and suitable management. Wide local excision (WLE) ensuring microscopically disease-free margins constitutes the treatment of choice. An adequate repair of the resulting defect of the anterior abdominal wall should be highly considered in surgical management. Long-term follow-up is recommended to assess any potential risk of recurrence that might occur over many years.



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