



## Renal Cysts : When is Surgical Intervention Required?

### KEYWORDS

Renal Cyst ,simple, Hemorrhagic

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**ABSTRACT** Availability of USG and Computed tomography has led to the frequent detection of asymptomatic renal Cysts [2]. The diagnostic challenges that cysts present are in the differentiation of the less common complex cysts from those associated with malignancy. If simple cyst enlarges and causes signs and symptoms, then one may choose to have treatment. Herein we present our experience of a case of hemorrhagic renal cyst.

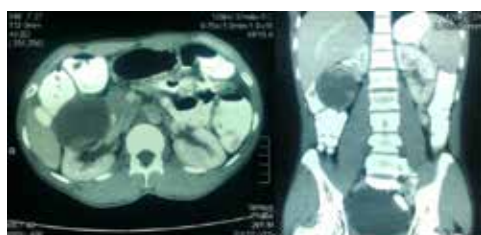
### INTRODUCTION

Renal Cysts , which are commonly known as kidney cysts are sacs that develop within or on the surface of the kidneys. A simple cyst is a thin walled, fluid filled cyst with no irregularity in its lining. Simple cysts are usually not a cause of serious concern and as such are a common finding on routine radiological studies. Today, ultrasound and cross- sectional imaging studies are frequently used to aid in obtaining the diagnosis of abdominal complaints. With improved technology and newer generation diagnostic equipment, renal masses are more frequently identified than 25years ago [1].

Simple cyst are asymptomatic except when complications such as hemorrhage, infection, or rupture lead to the development of complex cyst with calcification, demarcation irregularities, and multilobularity [2]. The diagnostic challenges that cysts present are in the differentiation of the less common complicated complex cysts from those associated with malignancy [2]. Herein we present our experience of a case of hemorrhagic renal cyst.

### CASE REPORT

A 26 Year old male patient presented with complaint of a lump in right subcostal area of 3 months duration. No other symptoms of Pain, vomiting, anorexia, fever, burning micturition and hematuria were present. Swelling was approximately 8cm x 8cm in size, mobile and bimanually palpable in right lumbar region in sitting posture only. Ultrasonography revealed 8cmx-7cm multiseptate cystic lesion arising from lower pole of right kidney. Further work up by CECT abdomen showed right renal cystic mass of Bosniak grade III (photo 1) and FNAC hemorrhagic cyst . At operation cyst was arising from lower pole of right kidney but having no communication with calyceal system, hence excised in toto (photo 2,3). Histopathology reported as simple hemorrhagic cyst. Patient was well when last seen at 3 months follow up.



**Photo 1 – CT Scan showing right renal cystic mass (Bosniak grade III)**



**Photo 2 – Cystic tumor on lower pole of right kidney**



**Photo 3 – Right kidney after excision of tumor**

### DISCUSSION

Simple renal cysts are discrete lesions within the kidney that are typically cortical, outside the parenchyma and distorting the renal contour [2]. The cyst wall is characteristically smooth, transparent, avascular, yellowish or bluish white in color, and formed by a thin layer of fibrous tissue lined by a single layer of flattened or cubical epithelium.

Simple cysts are variable in size on initial detection but increase in size overtime. In general, the increase in size is slow, estimated rate of 1.6mm or approximately 4 to 5% per year, and may double the original size over 10years. In follow-up studies, the increase in size was more evident during the first 2 to 3 years after detection and seemed

to stabilize thereafter.

Simple cysts are best defined using sonographic criteria. These include: (1) Absence of internal echoes, (2) Posterior enhancement, (3) round / oval shape and (4) sharp, thin posterior walls [3]. When all the criteria are met, the cyst is benign and no follow-up is required. The difficulty arises when cyst do not meet the rigid characteristics, hence clinician need to rely on a rapid, safe and accurate system to identify benign versus malignant masses and ultimately have the guidance on nonsurgical or surgical treatment options [4].

The Bosniak renal cyst classification system was initially reported in 1986, using CT scan findings still remains the primary diagnostic technique [5]. The Bosniak system consists of four categories based on triphasic CT findings, ranging from simple to complex cysts. Category I cysts have no malignant potential and, as such no followup is required. However, there is a large difference in potential malignant risk, between category II and category III. These are 0% to 5% and about 50% respectively [4]. Further in category II slightly more complicated cysts having multiple thin septa, slight wall thickening without measurable contrast enhancement was grouped as II F (For follow up). They may have calcification, including thick, nodular or irregular calcification. Ultimately, 95% of category IIF cysts are proven to be non-malignant [6]. While the importance of calcification has diminished over the years, since the original classification, enhancement with CT contrast has not. Any mass having enhancement with CT (i.e. Category III And IV), is a renal cell carcinoma until proved otherwise [7].

Simple kidney cysts typically don't cause signs or symptoms. If a cyst grows large enough it may present with flank pain, abdominal discomfort, a palpable mass, or hematuria; as a result of complications. Clinical symptoms are more common with neoplasms than simple cysts, and the onset of symptoms should always raise the possibility of an associated malignancy and the need for additional diagnostic studies.

Tests and procedures used to diagnose simple kidney cyst include: imaging tests such as ultrasound, a computerized tomography (CT) scan and magnetic resonance imaging (MRI). Imaging helps in identification of kidney mass in a cyst or tumor.

Since simple kidney cyst causes no signs or symptoms and doesn't interfere with kidney function, may not need treatment. Instead it is recommended to have an imaging test, such as ultrasound, periodically to see whether kidney cyst has enlarged. If cyst enlarges and causes signs and symptoms, then one may choose to have treatment. sometimes a simple kidney cyst goes away on its own.

The following are recommendations based on expert opinions – At this time, category I and II renal cysts, do not require further imaging or follow-up. Patients in category II F, because of approximate 5% malignant risk, do require periodic imaging. For category III (50 % malignant risk) and category IV (75 % to 90% malignant risk) surgical excision is recommended [4].

Simple renal cysts are discrete lesions within the kidney that are typically cortical, outside the parenchyma and distorting the renal contour. They are best defined using sonographic criteria [3]. When all the criteria are met, the cyst is benign and no follow-up is required. If simple cyst

enlarges and causes signs and symptoms, then one may choose to have treatment. The Bosniak renal cyst classification system based on triphasic CT findings still remains the primary diagnostic technique [5] and for category III and category IV surgical excision is recommended based on expert opinion [4].

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