INTRODUCTION

Renal cysts, cystic disease, and cystic masses are the most common abnormalities encountered in uroradiology. In some cases, the renal cysts are part of a systemic process that also involves the kidneys. In most patients, however, one or several cystic masses are detected, and the question is whether the lesion is benign or malignant. In the vast majority of cases, the radiographic findings are sufficiently characteristic that surgery is not required. However, use of various radiographic modalities may be necessary before a confident diagnosis can be reached ***(Dunnick et al., 1997)***.

Cystic lesions in the kidneys occur in at least 50% of persons over 50 years of age ***(Weinreb et al., 1996)***.

Renal cysts cause a variety of symptoms and complications. Pain occurs in 50% to 62% of the patients at some time in their life. Pain is most frequent in patients in the third and forth decades ***(Fick and Gabow, 1994)***.

Ultrasound is the first modality of choice in the diagnostic work-up of cystic renal masses, because an accurate and economically reasonable diagnosis. If a complicated cyst or a cystic tumor is suspected CT of the kidneys should be performed ***(Kreft and Schild, 2003).***

Cystic diseases of the kidney are a heterogeneous group comprising hereditary, developmental but non-hereditary, and acquired disorders. As a group, they are important for several reasons: (1) they are reasonably common and often represent diagnostic problems for clinicians, radiologists, and pathologists; (2) some forms, such as adult

polycystic disease, are major causes of chronic renal failure; (3) they can occasionally be confused with malignant tumors. A useful classification of renal cysts as follows: ***(Gardner, 1996)***

1- Cystic renal dysplasia.
2- Polycystic kidney disease :
    - Autosomal dominant (adult) polycystic disease.
    - Autosomal recessive (childhood) polycystic disease.
3- Medullary cystic disease.
4- Acquired (dialysis- associated) cystic disease.
5- Localized (simple renal cysts).
6- Renal cysts in hereditary malformation syndromes.
7- Glomerulocystic disease.
8- Extraparenchymal renal cysts.

The major inherited cystic disease of the kidney are autosomal dominant polycystic kidney disease (ADPKD), tuberous sclerosis complex (TSC) and von Hippel-Lindua disease (VHL), there are numerous other hereditary entities associated with renal cystic disease, but in most of these the genetics and pathology have not yet been as clearly defined, more over, the role of the screening with imaging studies is better defined in these three more common diseases ***(Peter LC, 1996)***.

Acquired renal cystic disease is a progressive disorder among dialysis patients. It appears to be an almost inevitable accompaniment of prolonged dialysis occurring in up to 90% of patients treated with dialysis for 10 years or more ***(Donald, 1991)***.

Most patients with ACKD are asymptomatic, although patients may become symptomatic if they develop complications including cyst and perinephric hemorrhage ***(Ishikawa, 1991)***.

The major reason for clinical concern with ACKD is the increased incidence of renal cell carcinoma. Most renal cell carcinomas occurring in association with ACKD have been described in dialysis patients ***(Grantham and Levin, 1995)***.

Renal ultrasonography is an excellent, readily available, and safe preliminary screening examination. Its major advantage is its high accuracy, safety, with low cost and less patient discomfort. Although CT offers the advantages of less operator dependency, better resolution, and higher specificity, it is often not available routinely in all institutions, is more expensive than ultrasound, often requires the use of intravenous contrast material, and utilizes ionizing radiation ***(Michael, 1990)***.