



CHARACTERIZATION OF RENAL STONES BY COMPUTED TOMOGRAPHY AT TERTIARY CARE CENTRE IN NORTHERN WESTERN RAJASTHAN

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ABSTRACT

Background-Nephrolithiasis is a Common clinical disorder affecting up to 5% of the general population.

Methods-This study was performed in Department of Radiology in sardar patel medical college, bikaner, in the period ranged (August 2016- December 2016), included 50 subjects (36 male and 14 female) with age range between from 17 to 70.

Results-36% of renal stone cases detected by ct scan.18% of ureter stone case detected by ct sacn.

Conclusion-spiral CT was found to be excellent modalities for depicting renal stones, CT are the first line of choice in diagnosis of renal calculi.

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INTRODUCTION

Nephrolithiasis is a Common clinical disorder affecting up to 5% of the general population in the USA. ¹. The prevalence of renal stone disease has been rising in both sexes, being estimated that about 5% of American women and 12% of men will develop a kidney stone at some time in their life ². Nevertheless, in certain areas of the world, as in the Middle East, the lifetime risk appears to be even higher ³. There has been heightened awareness of renal stone disease in children as well ⁴. Recurrence rates of 50% after 10 years and 75% after 20 years have been reported ^{5,6}.

Clinical manifestations are characterized by lumbar pain of sudden onset (the location of pain depends on the location of stone in the urinary tract) that may be accompanied by nausea and vomiting, gross or microscopic hematuria Diagnosis of renal stone in the acute setting is beyond the scope of the present update but in brief, is represented by urinalysis and imaging.

MATERIALS AND METHODS

This study was performed in Department of Radiology in sardar patel medical college, bikaner, in the period ranged (August 2016- December 2016), included 50 subjects (36 male and 14 female) with age range between from 17 to 70.

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subject include:, CT findings, site of the stone ,gender, age , and body habitus.

RESULTS

This data shows CT finding included 50 patients analyzed in tables and diagrams which showed below:

Table 1 shows CT finding versus U/S in detection of affected side

Affected site	No. of patients
Left	13
Right	4
Both	14
Nil	19
Total	50

Table 2 shows CT finding in detection of site of the stone

Site of stone	No. of patients
Kidney	22
Ureter	9
Nil	19
Total	19

Table 3 shows CT in detection of stone according to size in the kidney

Modality	Less than 5 mm	More than 5 mm	Total	Percentage
Ct scan	4	14	18	36%

Table 4 shows CT in detection of stone according to size in the ureter

Modality	Less than 5 mm	More than 5 mm	Total	Percentage
Ct scan	1	8	9	18%

DISCUSSION

Recent studies have shown that non-contrast spiral CT is an excellent method for demonstrating renal stones in patients with suspected renal colic exactly identifying ureteral stones. In another comparative study done by Smergel *et al*,⁴ noted that reformatted, non-contrast spiral CT images were superior to a combination of U/S and plain abdominal radiography for imaging ureteric calculi. The present results agree with studied done by (Yilmaz *et al*, and Oner *et al*)^{5,6} 56% of patients in studied sample are aged from 21-41 years old and they are mostly affected by renal stone, while 34% of patients are over 40 years CT findings showed that left sides were more affected than the right.

CONCLUSION

Spiral CT was found to be excellent modalities for depicting renal stones, CT are the first line of choice in diagnosis of renal calculi.

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