

Histomorphological Spectrum of Kidney Lesions in Nephrectomies And Autopsies.



Medical Science

KEYWORDS : Acute tubular necrosis, Chronic pyelonephritis.

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ABSTRACT

Introduction: Nephrectomy is one of the commonest surgical procedure in urology, indicated in patients with irreversible renal damage from chronic infection, obstruction, trauma, calculus and renal dysplasia. Kidney specimens from autopsy are sent routinely to look for morphological changes in unnatural death like drowning, poisoning, snake bite, road traffic accidents and natural death like cardiac failure. Hence this study was undertaken to know the histomorphological pattern of kidney lesions in autopsy and nephrectomy specimens and to categorize the various lesions encountered.

Materials and Methods:

This study was a retrospective study conducted over a period of three years in the department of Pathology which included nephrectomy specimens and specimens from medicolegal autopsies.

Results:

A total of 28 kidney cases were studied. Age of the individuals ranged from 10 to 80 years. Acute tubular necrosis was seen in 35.71 % and chronic pyelonephritis was seen in 32.14 %

Conclusion: Renal lesions are responsible for a great deal of morbidity and knowing about these lesions helps in early identification and prevention of progression of the disease. Histomorphological study of kidney lesions should be done thoroughly to know the cause of death and also prognosis and treatment.

Introduction: Nephrectomy is one of the commonest surgical procedure in urology, indicated in patients with irreversible renal damage from symptomatic chronic infections, obstruction, trauma, calculus, severe traumatic injury and renal dysplasia'. Kidney specimen from autopsy are sent routinely to look for morphological changes in unnatural death like drowning, poisoning, snake bite, road traffic accidents and natural death like cardiac failure. Renal lesions are responsible for a great deal of morbidity and knowing about these lesions helps in early identification and prevention of progression of the disease. Hence this study was undertaken to know the histomorphological pattern of kidney lesions in autopsy and nephrectomy specimens and to categorize the various lesions encountered.

Materials and methods: The study was conducted over a period of three years retrospectively in the Department of Pathology, from 2011 to 2014 at SS Institute of Medical Sciences and Research Centre. Relevant clinical data were obtained from histopathology request forms. Macroscopic findings were noted and bits were taken from representative areas and processed routinely. 3-4 μ thick sections were obtained from the paraffin blocks and routinely stained with Hematoxylin and Eosin. Sections were studied microscopically and lesions were identified and categorised. Prior approval from institutional ethical committee was obtained. Statistical analysis of data is expressed as numerals and percentage.

Inclusion criteria-Nephrectomy specimens and kidney specimen from medico-legal autopsies.

Exclusion criteria-Kidney specimens from neonatal autopsy.

Results: A total of 28 kidney specimens were studied, out of which 15(53.57%) were from males and 13(46.42%) were females. Age of the individuals ranged from 10 to 80 years.

Table no 1: Distribution of neoplastic and non-neoplastic lesions of the kidney.

Lesions	Number	Percentage
Non neoplastic	24	85.71
Neoplastic	2	7.14
Unremarkable	2	7.14
Total	28	100

Majority of the cases encountered were non-neoplastic in nature.

Table 2: Distribution of type of kidney lesions.

Lesion	Male	Female	Total	Percentage
Acute tubular necrosis	5	5	10	35.71
Chronic pyelonephritis	4	6	10	35.71
Malignant lesions	2	0	2	7.14
Non-specific lesions	2	2	4	14.28
Unremarkable	2	0	2	7.14

Majority of the lesions were acute tubular necrosis and chronic pyelonephritis accounting for 10 cases (35.71%) each.

Discussion: A wide spectrum of kidney lesions is found in nephrectomy and autopsy specimens. They may range from non-neoplastic lesions like acute tubular necrosis and chronic pyelonephritis to neoplastic lesions like malignancies.

In this study the most common lesion encountered in autopsy was acute tubular necrosis 35.71% (10cases) in cases of death due to poisoning. Renal clear cell carcinoma was seen in only one case (3.57%) of autopsy.

In the present study the inflammatory lesion were seen in 35.57% cases, which were consistent with the observations made by Pal et al (45.4%) and Nzegwu et al(42%)^{2,3}.

Malignant lesions in our study were 7.14%. This frequency was lower compared to the study by Pal et al et al wherein 54.4 % of

the cases were malignancies and consistent with study by Sarsik et al who reported 5% in 405 nephrectomy specimens.^{2,4,5}

The incidence of acute tubular necrosis in the present study was 35.71% which was higher when compared to the observations made by Mukhopadhyaya et al who reported 7.14%.⁶

Chronic pyelonephritis accounted for 35.71% in the present study while Mannan R et al reported lower occurrence of 10.49%.⁷

Conclusion:

Renal lesions are responsible for a great deal of morbidity and knowing about these lesions helps in early identification and prevention of progression of the disease. Histomorphology of kidney lesions need to be done thoroughly to know the cause of death and also prognosis and treatment in nephrectomy cases.

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