



Analysis of renal biopsies in geriatric patients: single center experience

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Background:

Renal diseases in the elderly are ever increasing along with advancing contemporary medicine and longer life expectancy. Kidney biopsy is very valuable when performed with right indications, but many nephrologists can hesitate in case of old patients. Therefore we aimed to analyse the indications, biopsy results and complications of renal biopsies that were performed in the patients older than 65 years old.

Methods:

All renal biopsies that were performed between October 2003 and August 2014 at this hospital were retrospectively reviewed. There were 712 biopsies and patients older than 65 were included. All biopsies were performed by ultrasound guidance using semiautomatic biopsy needles.

Results:

There were 78 patients (mean age 71.3±5.2, M/F 48/30) available for analysis. Mean levels of laboratory parameters were as follows; urea 116.8±68.5 mg/dL, creatinine 3.9±2.9 mg/dL, cholesterol 225±97 mg/dL, triglyceride 189±100 mg/dL, albumin 3±0.7, hemoglobin 11.1±2.5 g/dL, hematocrit 33.4%±7.6 and 24 hours proteinuria 4.7±5 gr. The reasons for renal biopsy were acute kidney injury (26 patients, 33.3%), nephrotic syndrome and acute kidney injury (21 patients, 26.9%), nephrotic syndrome (14 patients, 18%), acute on chronic renal failure (11 patients, 14.1%), non-nephrotic proteinuria (6 patients, 7.7%). The most common diagnoses in different settings were as follows; crescentic glomerulonephritis, acute tubular necrosis and tubulointerstitial nephritis in acute kidney injury; diabetic nephropathy, chronic glomerulonephritis and amyloidosis in chronic renal failure; primary membranous nephropathy, focal segmental glomerulosclerosis and secondary amyloidosis in nephrotic syndrome; IgA nephropathy and primary membranous glomerulonephritis in nonnephrotic proteinuria. The most common diagnoses in all patients were primary membranous glomerulonephritis (15), secondary amyloidosis (10) and crescentic glomerulonephritis (9). Biopsies yielded 20±10 glomeruli on average. There were not any major complication, and 2 patients had microscopic and 1 patient had macroscopic an spontaneously resolving hematuria.

Conclusions: Renal biopsy in the elderly is equally valuable as in general population and the risk of hemorrhagic complications may be as low as in younger patients.

Table 1. Demographic and laboratory data of the patients.

All patients (n = 78)	
Demographic	
Mean age (years) ±SD	71.3±5.2
Gender (M/F)	48/30
Laboratory values	
Urea (mg/dL) ±SD	116.8±68.5
Creatinine (mg/dL) ±SD	3.9±2.9
Hemoglobin (g/dL) ±SD	11.1±2.5
Hematocrit (%)±SD	33.4±7.6
T. Cholesterol (mmol/L) ±SD	225±97
Albumin (g/dL) ±SD	3.0±0.7
Proteinuria (g/day) ±SD	4.7±5

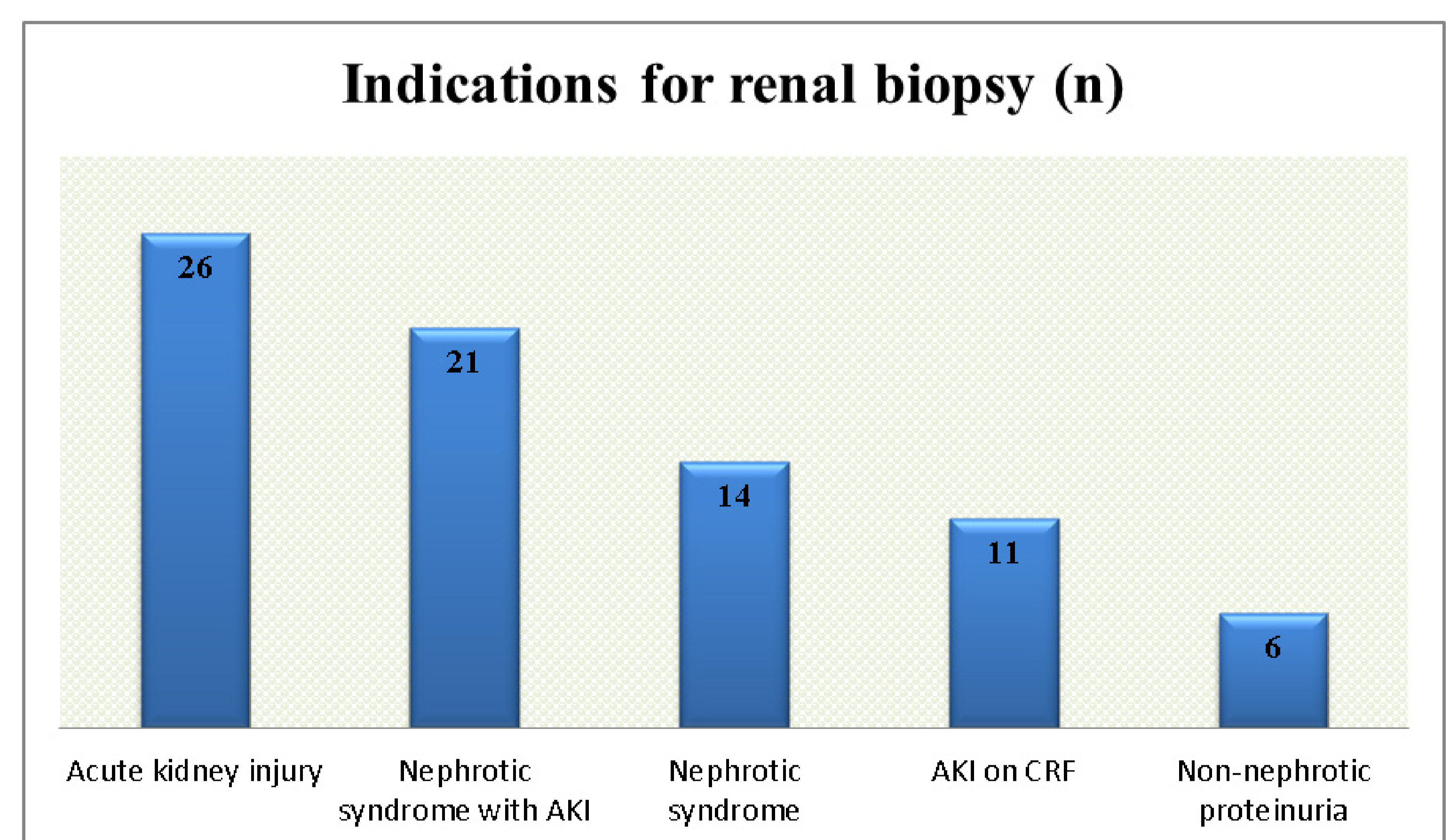


Table 2. The most common pathological diagnoses according to renal biopsy indications.

Indication for renal biopsy	Pathological diagnosis (n)
All patients	<ul style="list-style-type: none"> Membranous glomerulonephritis (15) Secondary amyloidosis (10) Crescentic glomerulonephritis (9)
Acute kidney injury (AKI)	<ul style="list-style-type: none"> Acute tubular necrosis Acute tubulointerstitial nephritis Crescentic glomerulonephritis
Nephrotic syndrome	<ul style="list-style-type: none"> Membranous glomerulonephritis Focal segmental glomerulosclerosis Secondary amyloidosis
Acute on chronic renal failure	<ul style="list-style-type: none"> Diabetic glomerulosclerosis Chronic glomerulonephritis Amyloidosis
Non-nephrotic proteinuria	<ul style="list-style-type: none"> IgA nephropathy Membranous glomerulonephritis

