

# ACUTE KIDNEY INJURY SECONDARY TO TUBULOINTERSTITIAL NEPHROPATHY: HISTOLOGICAL DIAGNOSIS AND STEROID THERAPY WITH SUBANALYSIS IN THE ELDERLY.

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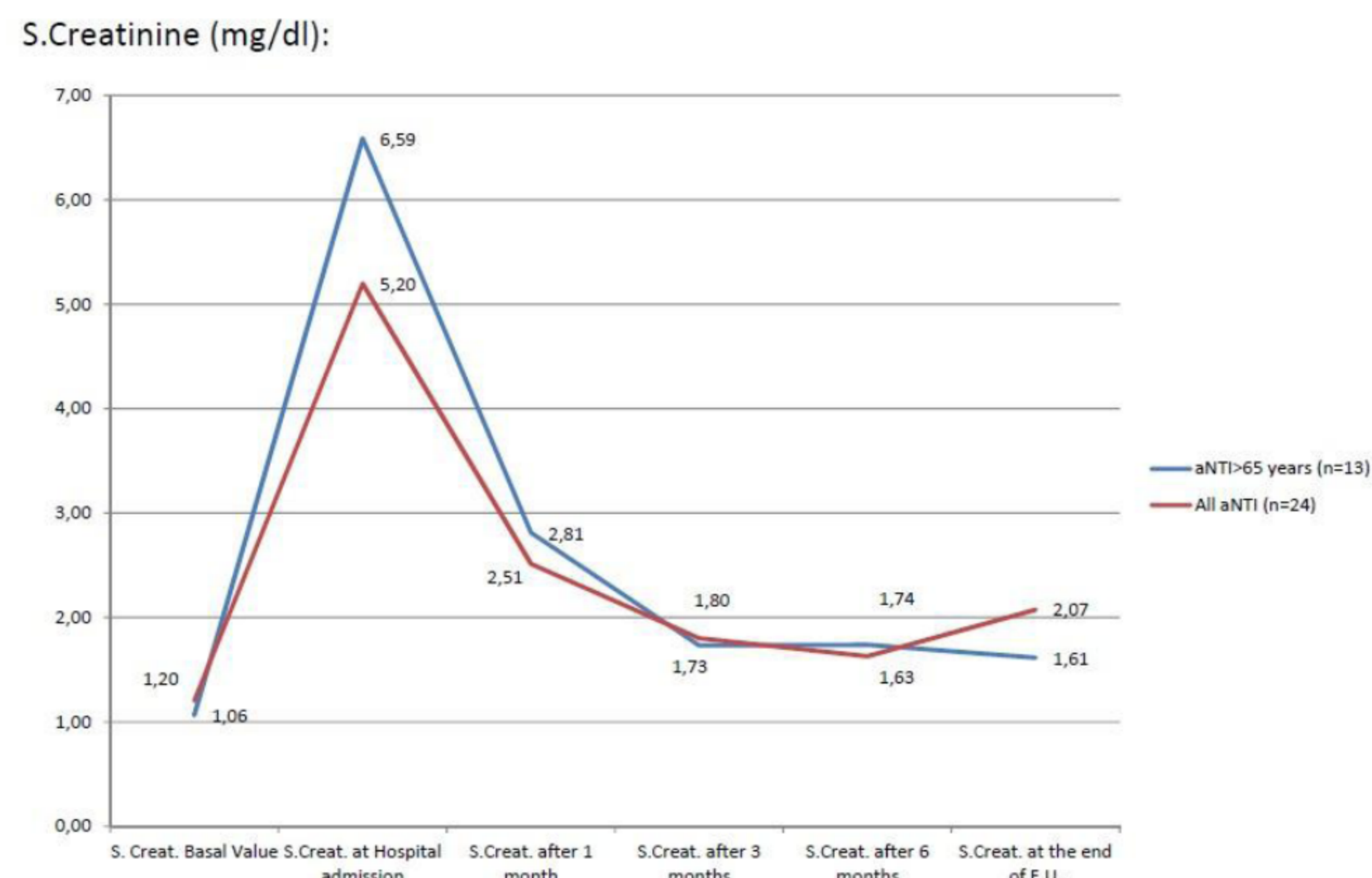
## OBJECTIVES

Tubulo-interstitial Nephritis (TIN), often iatrogenic, causes Acute Kidney Injury (AKI), also in the elderly. Less studied than other causes of AKI, steroid therapy is sometimes used to hasten functional recovery.

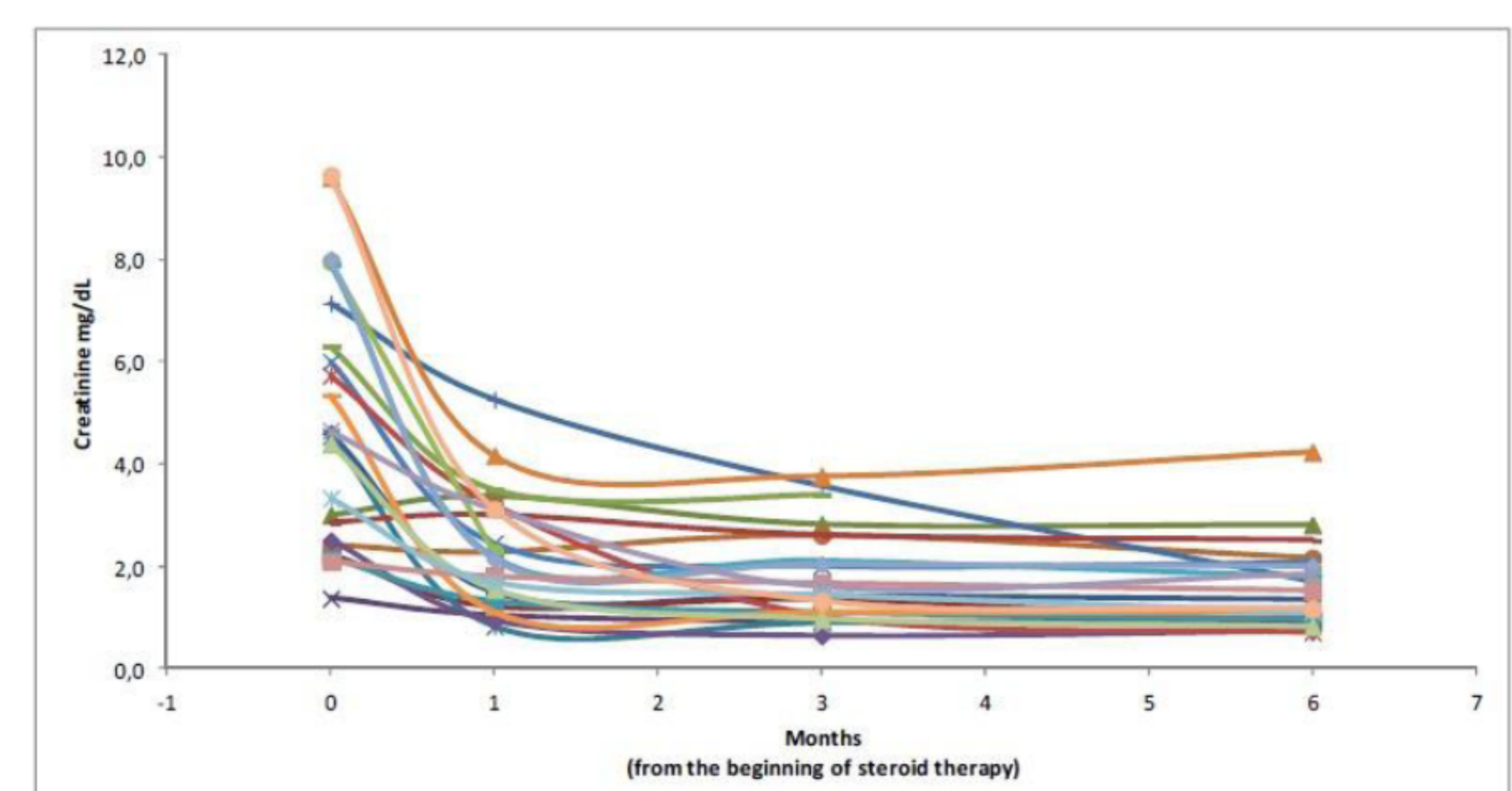
## METHODS

From January 2008 to June 2013 we performed 340 renal biopsies, 73 (21%) for AKI. The cases of TIN - 4 tubular necrosis (ATN, 5%) and 20 acute interstitial nephritis (AIN, 27%) - were retrospectively analyzed for demographic characteristics, comorbidity, etiology, histology, treatment and outcome. Patients older than 65 years were analyzed separately.

Changes of (mean) Serum Creatinine in the whole group (n=24) and in the elderly (n=13)



Serum Creatinine (n=24)



## RESULTS

Of the 24 patients 15 were female and mean age ( $\pm$ SD) was  $61 \pm 17$  years. Of those with AIN 2 were granulomatous, 15 drug-related (9 NSAIDs, 4 antibiotics, 1 proton pump inhibitor, 1 unknown), 2 associated with uveitis, 1 parainfectious, 1 associated with a hematologic disease and 1 unknown. Mean serum creatinine pre-AKI was  $1.2 \pm 0.58$  mg/dl; 13 patients had eGFR (MDRD)  $< 60$  ml/min/1.73 m<sup>2</sup> (KDOQI class 3: 11, class 4: 2). Hypertension was the most frequent comorbidity (13 patients). The creatinine at diagnosis was  $5.2 \pm 2.8$  mg/dl; five patients required replacement therapy (RRT), one permanently. All AIN patients were treated with prednisone 1 mg/kg/d for  $5.1 \pm 2.6$  months; one patient was also treated with azathioprine. All ATN patients recovered renal function (3 with RRT) and 15 of the 20 AIN patients. The creatinine reached a nadir at 6 months ( $1.63 \pm 0.85$  mg/dl) and then increased by the end of followup ( $2.07 \pm 1.62$  mg/dl). Of the 13 patients  $> 65$  y (9 female, age  $73 \pm 4.5$  y) 4 had ATN, 2 granulomatous; 8 patients were in KDOQI class 3, and 5 were treated with RRT. At the end of follow-up mean creatinine was  $1.61 \pm 0.85$  mg/dl ( $1.8 \pm 0.89$  mg/dl in the AIN group).

## CONCLUSIONS

Renal biopsy is a useful tool to distinguish and to guide therapy in the various classes of Tubulo-interstitial Nephritis causing Acute Kidney Injury. In elderly acute interstitial nephritis patients steroid therapy is effective and safe.

## References

-Praga M., Sevillano A., Auñón P., Gonzales E.: Changes in the aetiology, clinical presentation and management of acute interstitial nephritis, an increasingly common cause of acute kidney injury. *Nephrol Dial Transplant* (2014 Oct) Advance Access doi:10.1093/ndt/gfu326

