

Epidemiology and Outcomes in 185 Elderly Patients with AKI: Retrospective Cohort

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Background

Acute kidney injury (AKI) occurs in 2-7% of all hospital admissions and at a higher rate in elderly patients. Since world's population becomes increasingly older and information on this specific group of patients is insufficient, we thought it would be important to establish epidemiological differences in outcomes in elderly patients with AKI. Therefore, the aim of this study was to evaluate the etiology, severity, hemodialysis requirement and death among elderly patients with AKI.

Material and Methods

We evaluated retrospectively nephrology referral records since January 2011 to December 2013 in order to identify epidemiological differences from outcomes related to elderly and very elderly patients with AKI. AKIN criteria was used to define AKI. After identifying AKI patients they were divided into three groups: very elderly (above 75y), elderly (60-75y) and non-elderly patients (<60y).

Results

We analyzed 778 medical records of patients hospitalized in a University Hospital among which 407 had AKI (54.5% was non-elderly, 28.7% elderly and 16.7% very elderly).

There was a male predominance in elderly (56%) and very elderly (52%) patients differing from non-elderly group whose female (59%) was more common. The baseline creatinine was not different between the groups: elderly group (0.95 ± 0.26) non-elderly (0.86 ± 0.24 ; $p = 0.12$) and very elderly patients (0.89 ± 0.26) ($p=0.63$), as well as at the time of the nephrologist call ($p=0.116$).

AKIN 3 was the major stage of renal dysfunction at the time of the nephrologist call: non-elderly (47.2%), elderly (41%) and very elderly (36.7%). Ischemic etiology ranged 53.5% of all cases and it was more common in elderly (59.6%) and very elderly (66.1%) patients compared to non-elderly (46%) group ($p = 0.0075$). It is important to note that AKI associated to sepsis was included in ischemic etiology from renal injury. In elderly and very elderly patients, there were higher rates of vasopressors drugs and mechanical ventilation requirement compared with non-elderly patients ($p=0.0001$). Concomitant sepsis was found in 15.7% of non-elderly, 18.8% of elderly and 29.4% of very elderly patients ($p: 0.0243$).

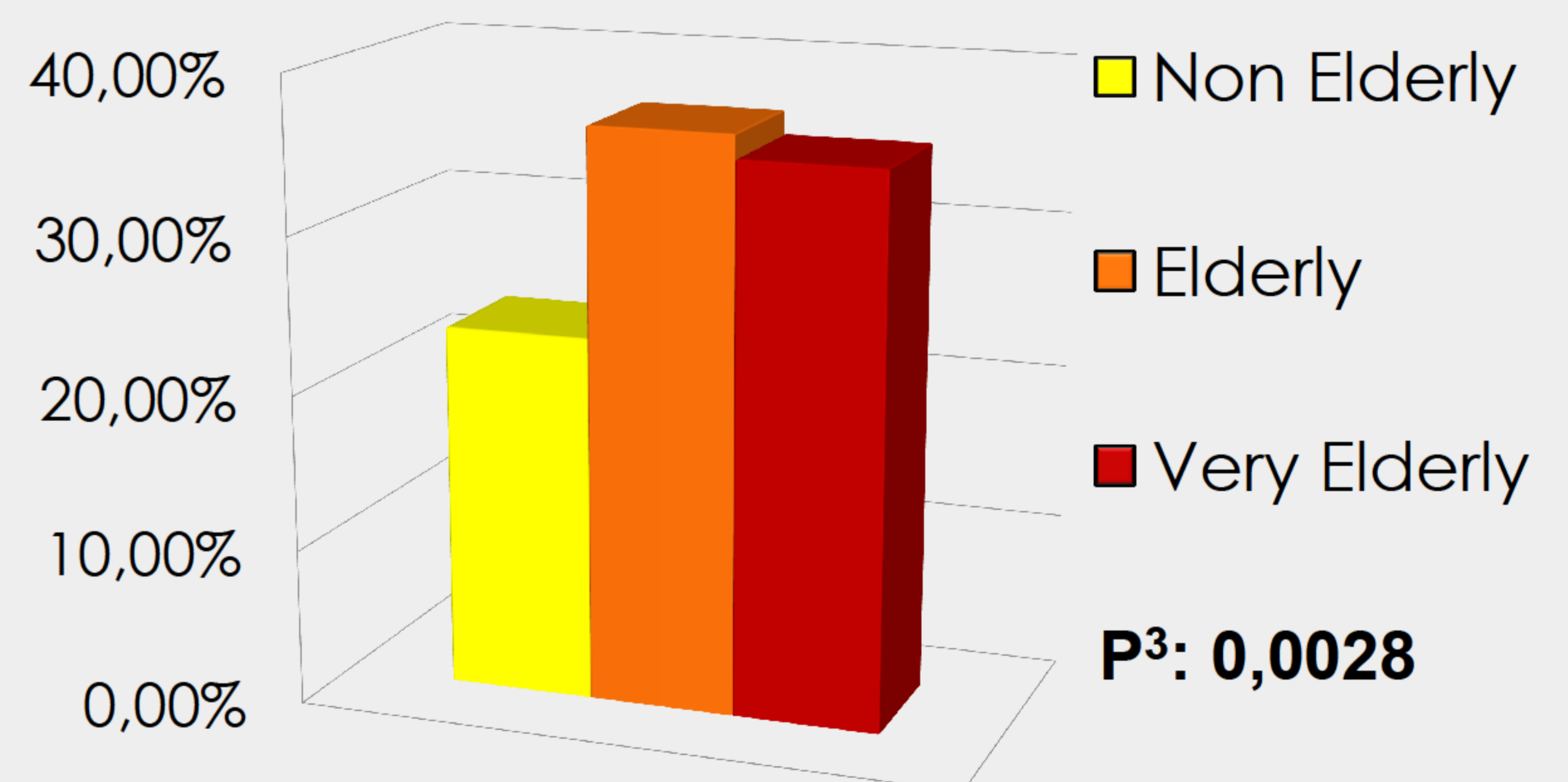
Mortality occurred in 23.4% of non-elderly patients and it was lower than elderly (36.7%) and very elderly (35.2%) patients ($p=0.0028$). There was no difference in mortality rate between the two groups of older patients ($p: 1,0$). Permanent hemodialysis was needed in 5.4% of non-elderly, 2.5% of elderly and 2.9% of very elderly patients ($p=0.43$). Comparing death and permanent dialysis requirement with temporary and non-hemodialysis requirement patients, there was no difference between three groups ($p=0.1$).

Table 1: Patients' characteristics among groups

	Non Elderly (n=222)	Elderly (n=117)	Very Elderly (n=68)	P value
AKIN 3	47.2%	41%	36.7%	NS
Baseline Scr (mg/dl)	$0,95 \pm 0,26$	$0,86 \pm 0,24$	$0,89 \pm 0,26$	NS
Ischemic Etiology	46%	59,6%	66,1%	P ¹ : 0,007
Sepsis	15,7%	18,8%	29,4%	P ² : 0,024
Permanent hemodialysis	5,4%	2,5%	2,9%	NS

P¹ : Elderly and Very-Elderly groups vs Non-Elderly group.
P² : Non- Elderly and Elderly groups vs Very- Elderly group.

Gráfico 1: Mortality rates among groups



P³ Elderly and Very Elderly groups vs Non-Elderly group.

Conclusion

Ischemic etiology was more common renal injury factor in elderly individuals with AKI. Higher rates of mortality, need for mechanical ventilation and vasopressors were found in this group of patients.

Permanent hemodialysis was not more frequent in elderly patients.

