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RISK FACTORS FOR HYPONATREMIA IN ELDERLY PATIENTS BEYOND PHARMCOLOGICAL EFFECTS

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Background

Hyponatremia is the most frequent electrolyte disorder among **elderly** patients (9.4-15.0% of prevalence). It is rarely attributed to pharmacological causes despite being one of the most common **drug-induced** electrolyte abnormalities. Although some studies have shown an increase in mortality, others have failed to confirm this association.

Purpose

- To estimate the prevalence of hyponatremia in geriatric patients.
- To determine which chronic drugs or alternative risk factors are associated with hyponatremia and whether hyponatremia is related to re-admission or mortality.

Materials and methods

We included ≥80 years old patients consecutively admitted from March to July 2018 in an Acute Geriatric Unit (81 beds), from a University Hospital. Data collected: age, sex, pre-admission Barthel index and Pfeiffer test, number and family of chronic drugs, laboratory test, comorbidities, length of stay (LOS), mortality, re-admission and mortality at 30 days post-discharge.

Results

	Hyponatremia (Na<135 mEq/L) n=29 (18.86%)	**Normonatremia** (Na=135-145 mEq/L) n=143 (83.14%)	**p**
Age (years)	90.1 (86.4-93.4)	88.4 (85.5-90.3)	0.129*
Nonagenarians (n, %)	**15 (52.72%)**	**40 (27.97%)**	**0.016¥**
Women (n, %)	20 (68.97%)	83 (58.04%)	0.306¥
Barthel index	**50 (20-70)**	**65 (45-85)**	**0.010***
Pfeiffer test	4 (2-6)	3 (1-5)	0.178*
Polypharmacy (number of drugs)	10.0 (8-14)	11.0 (8-14)	0.971*
Loop diuretics (n, %)	17 (58.62%)	92 (64.34%)	0.673¥
Thiazide diuretics (n, %)	**10 (34.48%)**	**12 (8.39%)**	**0.001¥**
Potassium-sparing diuretics (n, %)	3 (10.34%)	6 (4.20%)	0.178¥
Selective serotonin reuptake inhibitors (n, %)	7 (24.14%)	28 (19.58%)	0.615¥
Antipsychotics (n, %)	5 (17.24%)	32 (22.38%)	0.628¥
Na^+(mEq/L)	132 (131-133)	139 (138-141)	0.000*
K^+ (mEq/L)	4.8 (4.25-5.05)	4.5 (4.1-4.8)	0.067*
Glomerular filtration rate (GFR) (ml/min)	**27.7 (19.6-52.9)**	**43.7 (28.9-61.7)**	**0.021***
Heart failure (n, %)	12 (41.38%)	79 (55.24%)	0.221¥
Atrial fibrillation (n, %)	11 (37.93%)	59 (41.26%)	0.837¥
Diabetes mellitus (n, %)	**19 (65.52%)**	**59 (41.26%)**	**0.024¥**
Renal failure (GFR<30ml/min) (n, %)	**15 (51.72%)**	**34 (23.94%)**	**0.006¥**
LOS (days)	13 (9-17)	10 (7-16)	0.132*
Mortality (n, %)	4 (13.79%)	19 (13.29%)	1.000¥
30-day re-admission (n, %)	7 (28.00%)	28 (22.58%)	0.607¥
30-day mortality (n, %)	2 (8.00%)	7 (5.65%)	0.647¥

Median data (P25-P75).*U-Mann-Whitney-Wilcoxon. ¥ Fisher's exact test

Conclusions

- The studied population displays hyponatremia prevalence slightly above of published values.
- Hyponatremia is associated with use of thiazides and other risk factors such as age (>90 years), functional capacity, renal function and diabetes mellitus. Instead, re-admission and mortality rates remain unaltered.

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