

# SEVERE HYPONATREMIC PATIENTS: WHO ARE THEY AND HOW ARE THEY MANAGED?

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## Introduction and Aims

Hyponatremia is the most common electrolyte disorder in hospitalized patients; however clinicians often feel insecure with its differential diagnosis and treatment.

We aimed to investigate the frequency, clinical characteristics and the therapeutic behaviour in severe hyponatremia.

## Methods

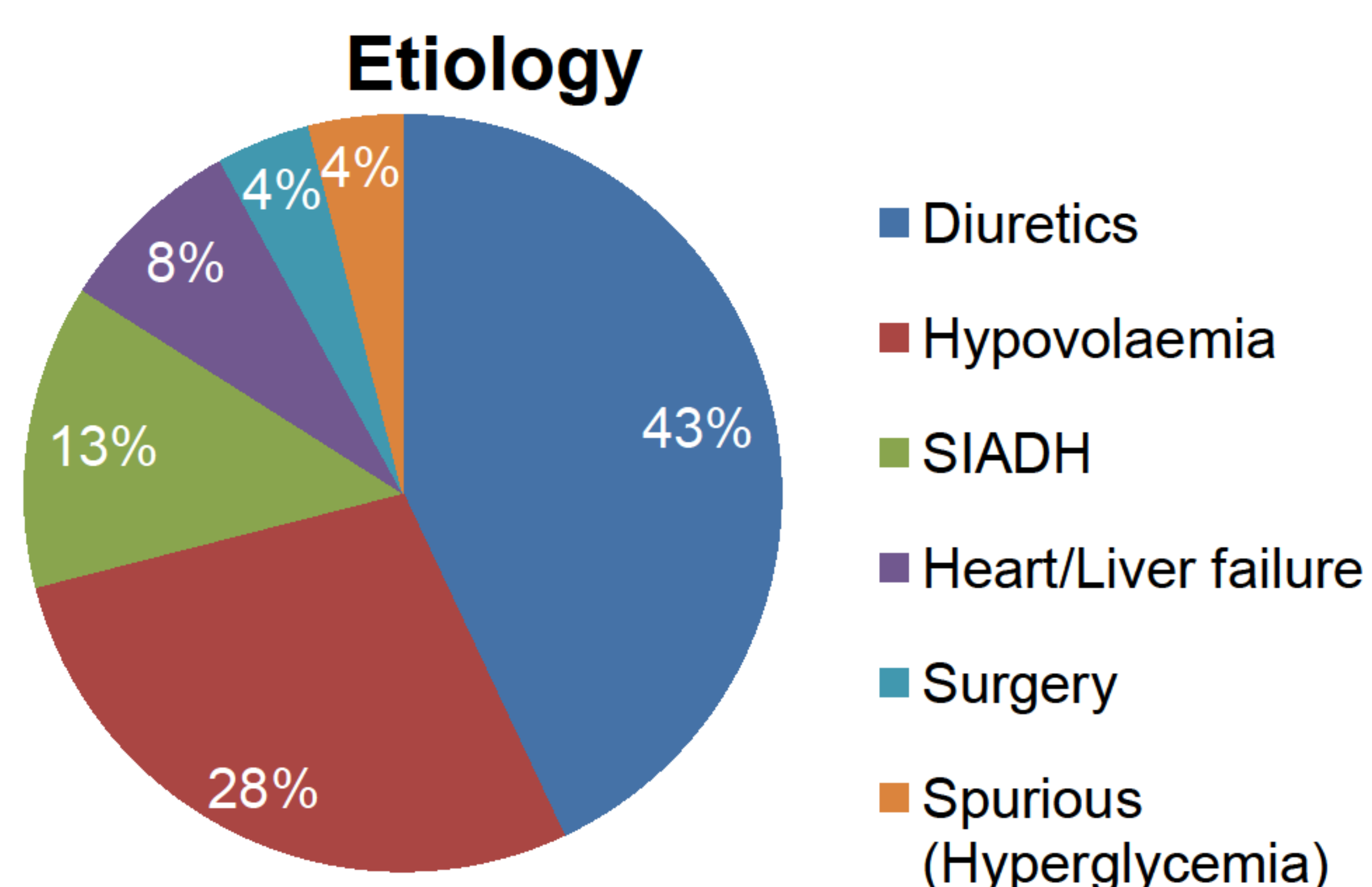
We extracted from the laboratory data base all cases with serum sodium <126 mmol/l presenting in the emergency department and in the wards of a 221 bed hospital serving a population of about 235,000 inhabitants. The observation lasted 200 days. Clinical data, underlying causes, management and in-hospital outcomes were registered.

## Results

The frequency of severe hyponatremia was 0.3% of the patients admitted to the emergency department and submitted to laboratory tests and 0.5% of the patients followed in hospital wards. A fall was recorded in 14% of cases. Only in 4 cases (5%) urinary Na concentration was available and in no case serum and urine osmolality. Clinical and laboratory data are reported in the table below.

	Emergency department	Wards	P value
# cases	53	24	
Males/females	17/36	9/15	n.s.
Age (years)	76 ± 14	82 ± 10	n.s.
Na (mmol/l)	120 ± 5	123 ± 2	0.014
Urea (mg/dl)	83 ± 93	63 ± 54	n.s.
Creatinine (mg/dl)	1.7 ± 3.1	1.4 ± 1.6	n.s.
Hyponatremic symptoms at presentation	46 (87%)	16 (67%)	n.s.

## Treatments given and outcomes



Slightly hypertonic saline infusion (348 mOsm/Kg):	44%
Isotonic saline infusion:	34%
Offending drug withdrawal:	8%
Oral sodium supplements:	3%
Fluid restriction:	3%
Extracorporeal hemodialysis/CVVHDF:	4%
(1 case with heart failure, 1 with liver failure, 1 with CKD5)	
No treatment:	3%

The rate of correction of serum Na was >1mmol/l/h only in 2 cases of hyponatremia due to hyperglycemia. In-hospital mortality rate was 5%. No cases of myelinolysis were observed.

## Conclusions

Severe hyponatremia was common in this unselected population observed in the emergency room and in the wards of a city Hospital. The most common phenotype was a (very) elderly woman. Diuretics, hypovolaemia and SIADH were the commonest etiologies. The frequency of adequate laboratory diagnostic testing was very low.

