

HYPONATREMIA AND MORTALITY IN PATIENTS HOSPITALIZED FOR HEART FAILURE (2005-2012)

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INTRODUCTION

Hyponatremia is the most frequent electrolyte disorder in hospitalized patients.

Our aim was to determine the incidence, mean hospital stay, readmission rate and mortality rate among patients with acute heart failure and hyponatremia.

MATERIAL AND METHODS

Retrospective analysis of data collected from the minimum data set of Spanish National health System between 2005-2012 from discharged patients of Internal Medicine with heart failure and hyponatremia. A bivariate analysis was conducted in order to detect differences in the mortality rate, mean hospital stay and readmission. A logistic regression analysis was performed using as dependent variable in-hospital mortality, adjusted for age and Charlson's index. Chi square and Student T test were performed. Data analysis used SPSS22 software.

RESULTS

A total of 11,095 (2.2%) out of 504.860 cases with heart failure presented hyponatremia (Figure 1). 64.6% were women. Mean age was 81,9 (SD 9.27) years in hyponatremia groups versus (vs) 79,7 (SD 9.76) in normonatremic patients.

In our study we found an increased prevalence of encoded hyponatremia as the mean diagnosis, from 7.7% in 2005 to 24.4% in 2011 (Figure 2).

The overall mortality in hyponatremic patients was 17.5% vs 10.9% (p<0.001) in non hyponatremic. Readmission rate was 22.2% vs 16.8% (p<0.001) (Figure 3).

FIGURE 1

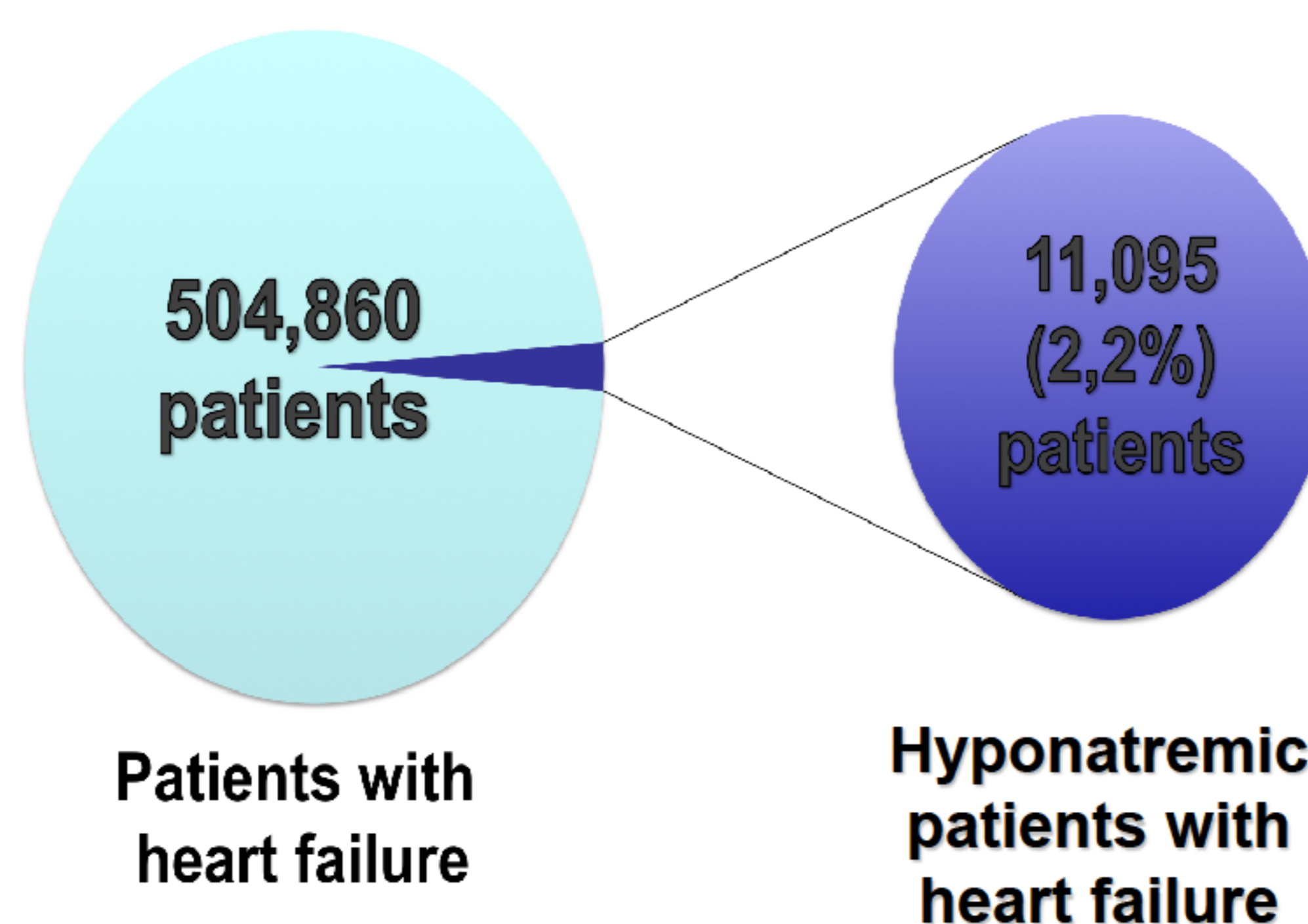


FIGURE 2: Increased prevalence of encoded hyponatremia in patients with heart failure

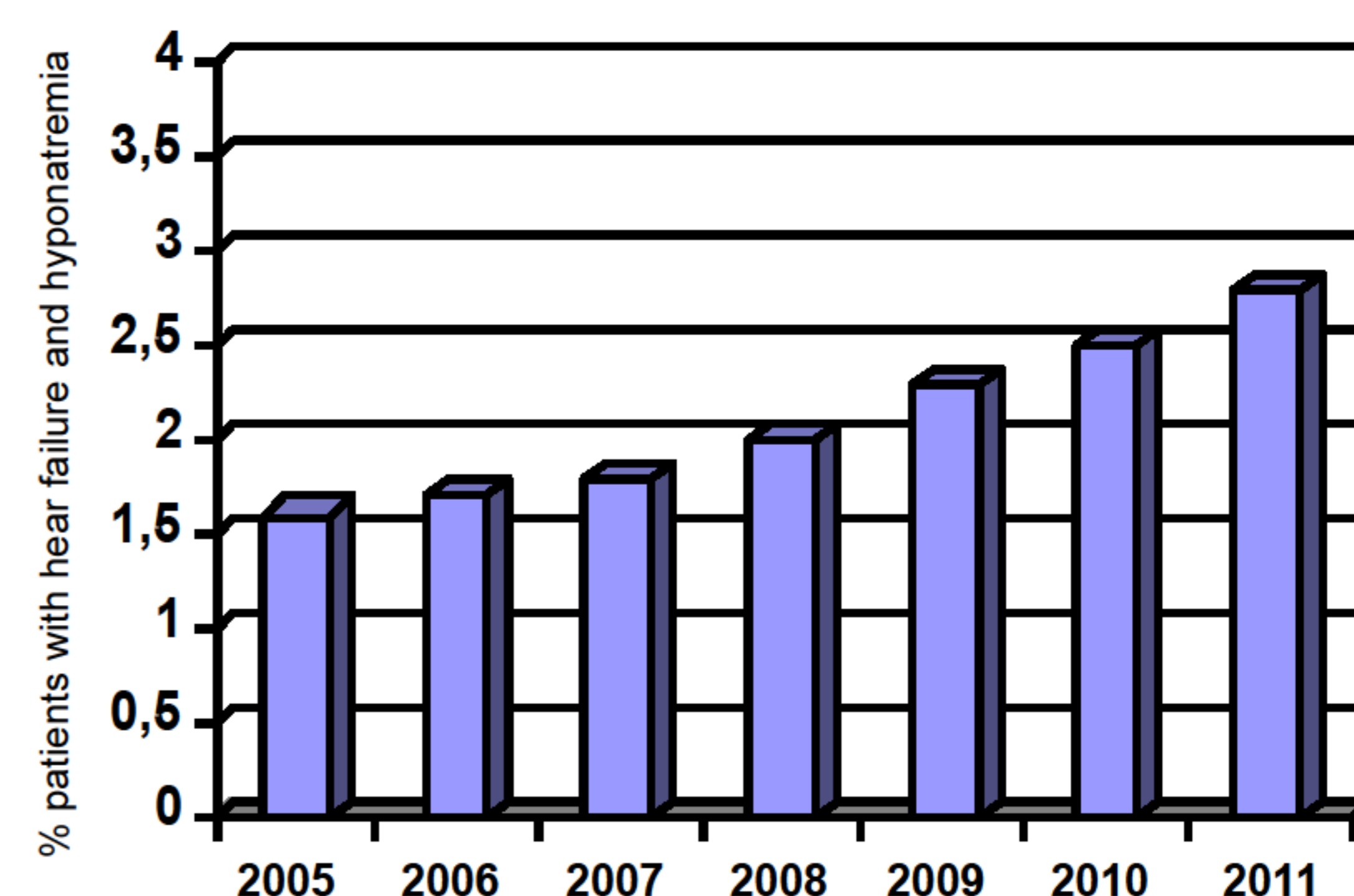
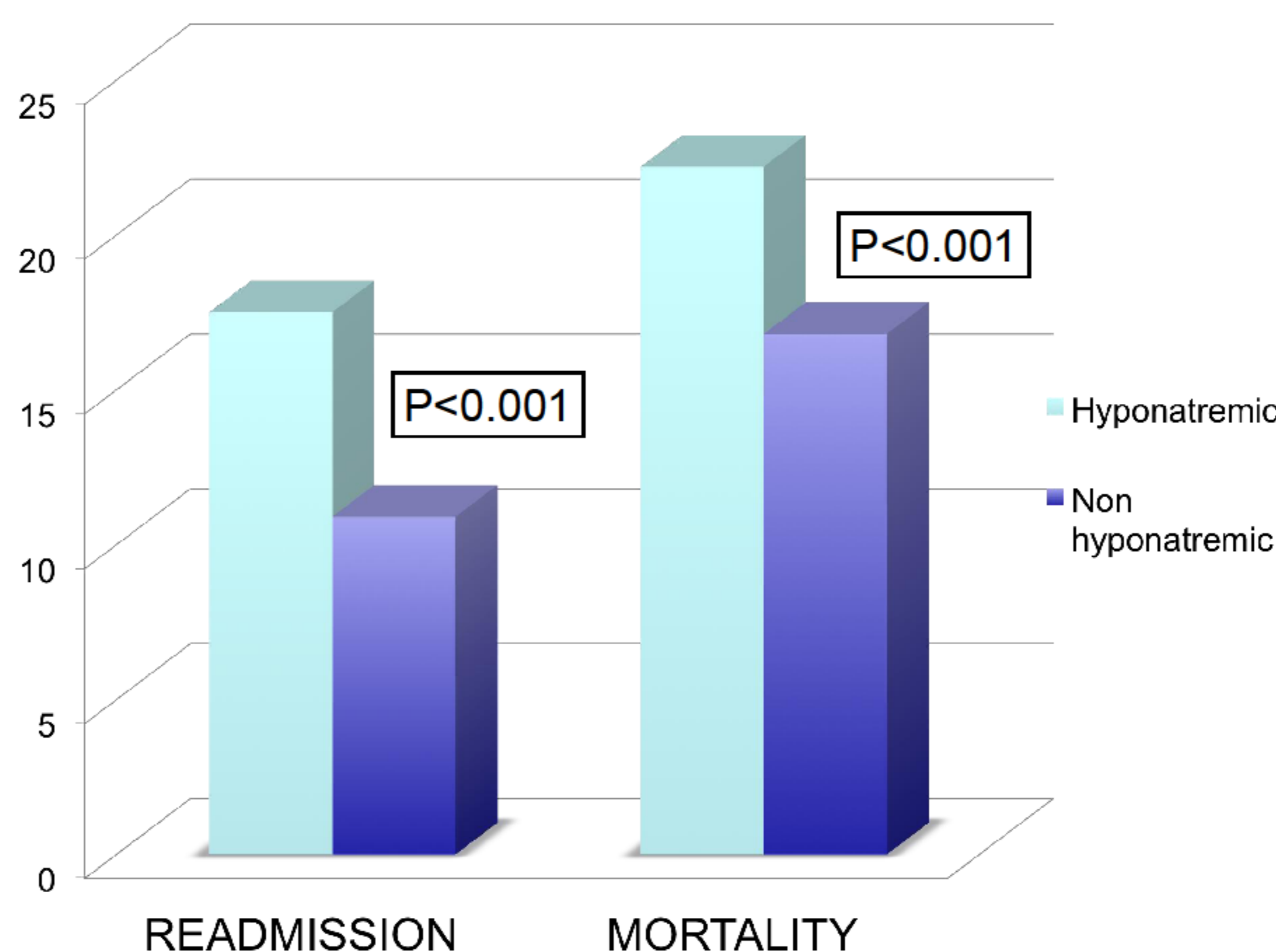


TABLE 2: Baseline characteristics and comorbidities of patients with heart failure and hyponatremia

	11,095 patients
Age (years)	81.9 (SD 9.27)
Sex (% women)	7172 (64.6%)
Hypertension	4091 (36.9%)
Diabetes Mellitus	3640 (32.8%)
Chronic renal disease	2635 (23.7%)
Chronic pulmonary disease	3551 (32%)
Neoplasia	606 (2.4%)
Hypothyroidism	669 (2.7%)
Dementia	478 (2.5%)
Desnutrition	255 (2.3%)

FIGURE 3: Mortality rate and readmission rate in patients with heart failure



Hyponatremia was associated with an **increased risk of mortality:**

OR	IC 95%	p
1.58	1.50-1.66	p<0.05

The same results were found in the logistic regression analyses:

Mortality rate adjusted for age		
OR	IC 95%	p
1.58	1.50-1.66	p<0.05

Mortality rate adjusted for Charlson's Index		
OR	IC 95%	p
1.388	1.36-1.46	p<0.05

CONCLUSIONS

Hyponatremia was associated with an increased mortality risk in hospitalised patients with heart failure, as described in previous studies. Thus, its accurate diagnosis and treatment is crucial. Nowadays, hyponatremia is considered to be a mayor diagnosis as reflected in the increased prevalence of its coding in discharged sheets. Nonetheless, further prospective studies regarding hyponatremia and mortality are needed.

