

“Hyponatremia in the Emergency Room: Characteristics, and Initial Diagnostic Approach”

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Introduction

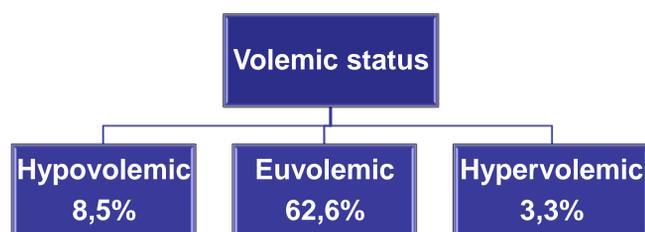
Hyponatremia is common in the Emergency Room, albeit frequently overlooked.

Our objective was to describe the characteristics of hyponatremia in a cohort of Emergency Room patients, and evaluate how hyponatremia was studied and followed up.

Material and Method

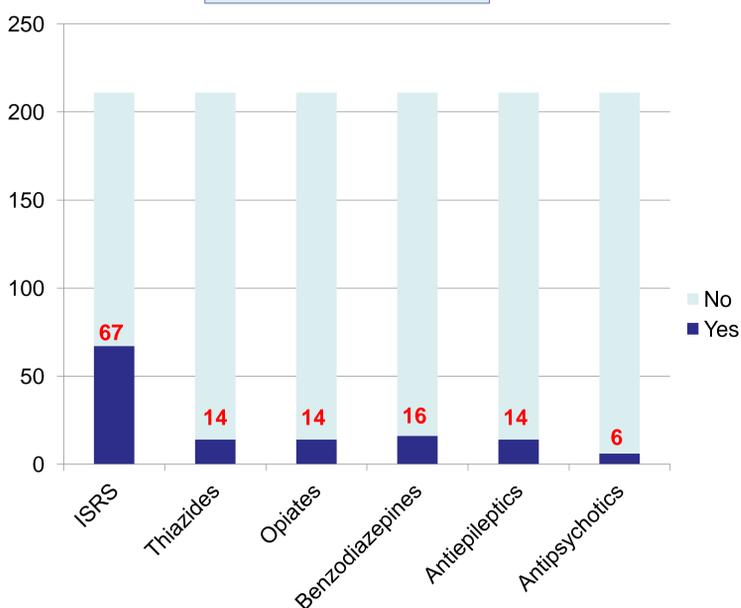
We studied all 211 patients under 70 years-of-age who presented or developed non-translocational hyponatremia (Serum Sodium (SNa) < 135 mmol/L) during the first 48 hours of their stay at the Emergency Room of our general hospital in August of 2012.

Patients were classified by physical examination and the presence of hemodilution or hemoconcentration (urea/creatinine, hematocrit).



Lack of data 26%

Figure 2



Results

Characteristics: Average age was 47 (SD 16) years old, 54.5% (115) were women. 31%(66) had presented hyponatremia previously.

The **comorbidity** is shown in figure 1.

Volemic status: 8.5% (18) were hypovolemic, 3.3% (7) hypervolemic, 62.6% (132) euvolemic, (64.8% of whom experienced pain, 40.8% nausea, 29% both). 25.6%(54) lacked sufficient data for classification.

8,2 % went to Emergency Room because of **falls**.

Mean initial SNa: 132.3 mmol/l(SD 3.35), Mean nadir SNa: 131.6 mmol/l(SD 3). 5.6%(12) presented **polydipsia**.

Drugs: 31.8%(67) were medicated with selective serotonin reuptake inhibitors, 6.6% (14) thiazides, 6.6% (14) opiates, 7.6% (16) benzodiazepines, 6.6% (14) antiepileptics, 2.8% (6) antipsychotics (figure 2).

Only 7 (3.3%) patients had **Osmolality(Plasma/Urine)** determined, 13 (6.2%) **urine electrolytes**. 21% had **TSH** levels. Only 2 patients had **cortisolemia** measured.

A comprehensive diagnostic study of hyponatremia (**physical examination** and laboratory tests) was undertaken only by Endocrinologists.

Hyponatremia treatment: oral salt supplements in 4 patients (0,01%) with a mean amount of 3 grams daily, 12 patients received furosemide(0,05%), 6 fluid restriction (0,02%), 124 isotonic saline (58%) with a mean volume of 1360 ml (SD: 677 ml) and only 1 patient received 3% hypertonic saline iv.

Natremia evolution: In 34% (72) SNa levels improved within 24 hours, in 17.5% (37) they dropped. In the rest SNa remained stable or was not repeated. 2.8% (6) developed **overcorrection of SNa**. None were relowered.

The most common **principal diagnoses** were urinary tract infection: 10.5%(22), neoplasia: 8.5%(18) -a third of whom had ENT cancer- gastroenteritis: 7.6%(16) and GI bleeding in 2.9%(6).

In 1.4%(3) hyponatremia was the **principal diagnosis** and in 15.2%(32) a codified diagnosis.

After discharge, 36%(27) of the 75 patients with follow-up data remained hyponatremic.

Conclusion

In a majority of cases, hyponatremia was inadequately studied in the emergency room of our hospital, hindering a correct diagnosis and treatment of this important disorder.

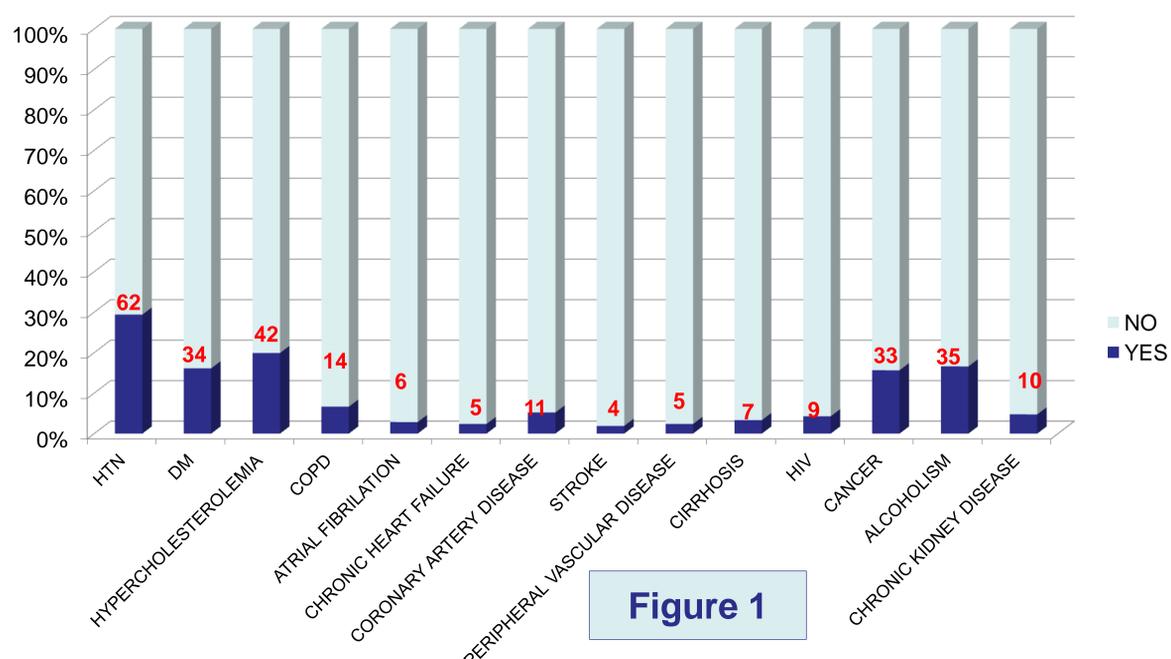


Figure 1