EFFECTIVENESS AND SAFETY OF TOLVAPTAN AND UREA FOR THE TREATMENT OF SEVERE SYMPTOMATIC HYponatremia: A CASE SERIES

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BACKGROUND

Tolvaptan and recently urea are both indicated for the treatment of hyponatremia secondary to the Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH) in our country. The FDA also contemplates its use in patients with heart failure (HF). Regarding safety of these drugs, patients with very low baseline natremia may be at risk for too-rapid correction of serum sodium (>12mEq/L/24hours).

PURPOSE

To analyse the effectiveness and safety of tolvaptan and urea and its use in relation to the diagnosis of hyponatremia.

MATERIAL AND METHODS

Retrospective observational study of all cases of severe symptomatic hyponatremia diagnosed during 2016 in a tertiary care hospital and who started treatment with oral urea or tolvaptan during hospitalisation. Variables collected: etiology of hyponatremia, analytical parameters, dose and duration of treatment.

RESULTS

TOlvaptan

Dose 15-30 mg/day
Median duration 7 days (2-28)

7 Patients
3 SIADH
4 HF

Baseline mean natremia 119.8 mEq/L
Final mean natremia 133 mEq/L

End of hospital treatment

Eunatremia
2 Cases - SIADH
1 Cases - HF

Exitus
3 Cases

Mean Δ natremia at 24h
9.9 mEq/L (-3-21)

Δ natremia > 12 mEq/L/24h
Risk of brain damage

Urea

Dose 15-30 g/day
Median duration 15 days (7-147)

6 Patients
5 SIADH
1 Adrenal insufficiency

Baseline mean natremia 123.4 mEq/L
Final mean natremia 133 mEq/L

End of hospital treatment

Eunatremia
3 Cases - SIADH

Exitus
2 cases

Home treatment
3 cases

CONCLUSIONS

Off label use of tolvaptan in HF has not been shown to be effective. Regarding hyponatremia in SIADH, tolvaptan has shown to be moderately effective but the correction was too rapid. This result can be related to an incorrect diagnosis of SIADH and/or a too low baseline natremia. Urea proved to be an alternative of moderate efficacy but safer, allowing its ambulatory use. Therefore, the pharmacy service proposed to establish in our hospital a protocol for the management of severe hyponatremia to improve the efficacy and safety of tolvaptan and urea.