Hyponatraemia induced by trimethoprim use

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Introduction

Hyponatraemia is a common side effect of many drug therapies including diuretics, anti-epileptics and psychotropic agents. Hyponatraemia induced by other medication classes occurs much less frequently and is seldom reported with antibiotics. This report describes the occurrence of hyponatraemia with trimethoprim use.

Case description

A 68-year-old Caucasian woman presented to hospital for an elective cholecystectomy. Her past medical history was unremarkable with the exception of a history of migraines during adolescence. She was on no regular medications at the time of admission. On day 3 of admission, she developed symptoms of a urinary tract infection for which trimethoprim 300mg nocte was prescribed. Two days later, she developed asymptomatic hyponatraemia, with a drop of sodium from a baseline of 137 mmol/L to 115mmol/L over two days. A review of her clinical notes did not identify any obvious cause for her hyponatraemia so discontinuation of her trimethoprim was trialled. On discontinuation, her plasma sodium increased to 134mmol/L and the patient was successfully discharged.

Discussion

This case illustrates that hyponatraemia can occur with trimethoprim use. Several other case reports have described a similar phenomenon, occurring predominantly in elderly patients[1,2,3]. An exact mechanism for this presentation has not yet been proposed, though suggestions of an SIADH-like or hyporeninemic hypoaldosteronism mechanism have been made[2,3].

Conclusion

This case demonstrates the possible occurrence of hyponatraemia with trimethoprim. Although uncommon, trimethoprim-induced hyponatraemia should be considered in patients presenting with sudden onset hyponatraemia in the absence of alternative causes.

References

1. Dreiher J, Porath A. Severe hyponatremia induced by theophylline and trimethoprim. Arch Intern Med. 2001 Jan 22;161(2):291-2.
2. Noto H, Kaneko Y, Takano T, Kurokawa K. Severe hyponatremia and hyperkalemia induced by trimethoprim-sulfamethoxazole in patients with Pneumocystis carinii pneumonia. Intern Med. 1995;34:96-99.
3. Bevilacqua M. Hyponatraemia in AIDS. Baillieres Clin Endocrinol Metab. 1994; 8:837-848.

Justification for presentation

This is one of few reported cases of trimethoprim-induced hyponatraemia. Trimethoprim is commonly used in elderly patients in whom the risk of hyponatraemia is prevalent. Knowledge that trimethoprim can induce hyponatraemia will assist pharmacists managing hyponatraemia of unknown cause.