Concerns about the safety of patients with diabetes insipidus admitted to hospital

Dear editor,

Much has been written about maintaining the safety of patients on glucocorticoid replacement during illness sometimes inadequate response of nonendocrine colleagues providing inpatient care. Another group of patients that merit urgent attention in the inpatient setting are those with diabetes insipidus.\(^1\) In the UK, there has been one case reported in the press nationally and other cases locally and across the UK where patients with diabetes insipidus have not received the care that they require, at best resulting in a near miss, at worst contributing to their death.\(^2,3\)

Knowledge of how to manage diabetes insipidus in health is limited to endocrine outpatient settings, whereas inpatient care will expose these patients to a range of medical staff with no expertise in this area. Yet this is when patients with diabetes insipidus are most vulnerable, with care being complicated by confusional states from metabolic, infective or neuropsychiatric causes, dehydration, “nil by mouth” orders for patients who are unwell resulting in dependence on intravenous fluid administration, inadequacies in meticulous fluid balance management, not allowing self-medication and often unavailability of desmopressin in the medical ward or pharmacy.

To explore this area further at University Hospitals of Leicester NHS Trust, we performed a retrospective audit of adult patients admitted over an 18-month period (January 2013 to June 2014) prescribed desmopressin for diabetes insipidus or other medical conditions using electronic prescribing (ePMA), a system designed to promote accurate medicines prescribing and administration with instant and seamless access between hospital wards and hospital pharmacy. Safety concerns were recorded on a scoring system according to the predefined parameters including patient confusion, abnormalities of serum sodium levels, evidence of missed or delayed administration of desmopressin and/or hydrocortisone. Out of 15 patients on desmopressin eight had diabetes insipidus and these eight underwent 17 admissions. Primary diagnosis at admission included dehydration with acute kidney injury (one), falls/syncope (nine), confusion (four), respiratory infection (two) and hyponatraemia (one). History of confusion was recorded in 12 admissions (70%), six admissions (35%) had abnormal serum sodium levels (four on admission in response to the and two developed during the admission), and 14 admissions (88%) had 39 missed/delayed doses of desmopressin. Common reasons included, medications unavailable (64-9%), no reason mentioned (15-8%), patient declined (7-0%) and nil orally or wrong timing of medication (12-3%). Concomitant administration of hydrocortisone (glucocorticoid replacement) was missed in 35-7% admissions. At least one safety concern was seen at every hospital admission in patients with DI.

The findings of our audit confirm the premise that although patients on desmopressin with diabetes insipidus make up a small but important cohort of patients, their management in a hospital setting is challenging. Indeed, errors in desmopressin prescribing and administration can affect patient safety and cause clinical harm.\(^4\) We call for a national campaign to increase awareness similar to that to reduce unnecessary adrenal crises.\(^5\) This should include the following: the inclusion of desmopressin in medicines formularies as a high alert medication, greater pharmacovigilance by doctors, nursing staff and pharmacists in clinical areas (e.g. acute medical units, nonendocrinology wards) where high alert medications are potentially used, implementing policies supporting medicines management, audit and highlighting details of safety incidents in an open learning culture are important recommended measures to improve patient safety. The introduction of alert systems within e-prescribing in hospitals across the UK provides a mechanism to alert endocrinologists and staff of appropriate levels of care when patients on desmopressin have been admitted. One measure that we have found useful and currently in use at UHL is daily automated identification of patients on hydrocortisone and desmopressin via the electronic prescribing system and an automated email is widely disseminated among endocrine specialists including training registrars who assume responsibility for regular patient review and expert specialist opinion. Clinical ward pharmacists are also involved in reviewing patients against basic predefined safety criteria to help identify those patients who merit a medical (endocrine specialist) review.

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References

