

consideration. The assessment of 50 reports with long narratives (10,000–20,000 characters) was affected in 74% of cases.

## Discussion

Our evaluation of two international samples of randomly selected reported clinical stories highlights the importance of detailed descriptions of circumstances under which suspected ADRs occur. Without the case story, crucial misinterpretation of case reports could lead to wrong regulatory decisions and deny clinically useful information to healthcare practitioners. ■

GHAZALEH KARIMI

*Research pharmacist, The Uppsala Monitoring Centre, Sweden*

KRISTINA STAR

*Senior researcher, The Uppsala Monitoring Centre, Sweden*

MARIE LINDQUIST

*Director, The Uppsala Monitoring Centre, Sweden*

I RALPH EDWARDS

*Professor in medicine, The Uppsala Monitoring Centre, Sweden*

## References

- 1 Karimi G, Strandell J, Star K *et al*. Global patient safety surveillance on free-text information from ICSRs – to be or not to be? *Drug Saf* 2012;35:918.
- 2 Lindquist M. Vigibase, the WHO Global ICSR Database System: basic facts. *Drug Inf J* 2008;42:409–19.
- 3 Rosebraugh CJ, Flockhart DA, Yasuda SU, Woosley RL. Olanzapine-induced rhabdomyolysis. *Ann Pharmacother* 2001;35:1020–3.

## How frequently are bedside glucose levels measured in hospital inpatients on glucocorticoid treatment?

Glucocorticoids are widely used in many medical specialties for their anti-inflammatory and immunosuppressive qualities. The majority of glucocorticoid use occurs in the outpatient setting. Long-term glucocorticoid use is associated with several side effects, including the development of hyperglycaemia. Observational data for many, if not most, medical and surgical conditions requiring hospitalisation suggest that the additional presence of hyperglycaemia or diabetes is associated with poorer outcomes.<sup>1,2</sup> Despite this association there are no data on the prevalence of glucocorticoid use in hospitalised inpatients.

We conducted a single centre prevalence study carried out over two consecutive days in January 2014, assessing every adult bed (n=940) in our institution, excluding the accident and emergency department, coronary care, and intensive care units. Our aim was to look at the number of patients on glucocorticoids and to see how many had their glucose levels measured.

We found that 120 patients (12.8%) were being treated with glucocorticoids; 99 of these (82.5%) were on prednisolone. The mean daily dose (MDD) for prednisolone was 25.0 mg ± 12.5 (range 0.5–60). Sixteen patients (13.3%) were receiving dexamethasone with a MDD of 9.2 mg ± 6.5 (range 0.5–20). The remaining four patients (3.3%) were being treated with hydrocortisone either intravenously or orally, with a MDD of 107.5 mg ± 106.9 (range 20–200). Sixty-four (53.3%) of patients

**Table 2. Baseline characteristics and steroid use of patient cohort (n=120).**

Variable	Category	n (%)
Age (years)*		74.7±14.3
Gender (Male:Female)		52:68 (43.3:56.7)
Previous diagnosis of diabetes (Yes:No)		16:104 (13.3:86.7)
Steroid type	Prednisolone	99 (82.5)
	Dexamethasone	16 (13.3)
	Hydrocortisone	4 (3.3)
Indication for steroids	Respiratory	76 (63.3)
	Musculoskeletal	14 (11.7)
	Vasculitis	7 (5.8)
	Oncology	12 (10.0)
Duration of course	Other	11 (9.2)
	>10 days	64 (53.3)
Glucose monitoring	<10 days	56 (46.7)
	No monitoring	95 (79.2)
	Glucose levels monitored	25 (20.8)

\*Mean ± standard deviation.

who were being treated with glucocorticoids had been receiving their treatment for longer than 10 days at the time the data was collected.

Of the 120 patients receiving glucocorticoids, only 25 (20.8%) had their blood glucose levels measured during their time as inpatients. Of these, 13 had pre-existing diabetes. There were three patients who had diabetes and were receiving glucocorticoids but had no regular blood glucose measurements. Compared to those without diabetes, patients with pre-existing diabetes were more likely to have their glucose levels measured ( $p<0.001$ ). Of the patients without diabetes, only 12 patients (11.5%) were having their blood sugars measured while on glucocorticoids.

This study has highlighted the need for continued improvement to the care of hospitalised inpatients. Despite the knowledge that glucocorticoids cause hyperglycaemia and that high levels of glucose are associated with harm, very few patients in this study were having their glucose levels measured.

We suggest that all hospitalised patients being treated with glucocorticoid doses greater than an equivalent of 7.5 mg of prednisolone must have their blood glucose levels measured regularly. Initially this should be postprandially once or twice per day, and if the glucose level is found to be >12 mmol/l during any 24-hour period then testing should be before meals and before bedtime. If glucose levels remain >12 mmol/l then treatment (initially with sulfonylureas) should be started. A new guideline produced by the Joint British Diabetes Societies Inpatient Care group addresses glucocorticoid associated hyperglycaemia and is freely available at [www.diabetologists-abcd.org.uk/JBDS/JBDS.htm](http://www.diabetologists-abcd.org.uk/JBDS/JBDS.htm). ■

VISHAL NARWANI

Foundation year 1 doctor, Department of Medicine, Norfolk  
and Norwich University Hospitals NHS Foundation Trust,  
Norwich, UK

LEYLA SWAFE

Foundation year 1 doctor, Department of Medicine, Norfolk  
and Norwich University Hospitals NHS Foundation Trust,  
Norwich, UK

CHARA STAVRAKA

Job title, Department of Medicine, Norfolk and Norwich  
University Hospital NHS Foundation Trust, Norwich, UK

KETAN DHATARIYA

Consultant in diabetes, endocrinology and general medicine,  
Department of Medicine and Elsie Bertram Diabetes Centre,  
Norfolk and Norwich University Hospitals NHS Foundation Trust,  
Norwich, UK

## References

- 1 Baker EH, Janaway CH, Philips BJ *et al*. Hyperglycaemia is associated with poor outcomes in patients admitted to hospital with acute exacerbations of chronic obstructive pulmonary disease. *Thorax* 2006;61:284–9.
- 2 Kwon S, Thompson R, Dellinger P *et al*. Importance of perioperative glycemic control in general surgery: A report from the surgical care and outcomes assessment program. *Ann Surg* 2013;257:8–14.

## RCP information

### Change of address?

If you receive *Clinical Medicine*, please inform us of any changes to your contact details. This helps us to maintain an accurate record of your account and avoids any problem with journal distribution.

Fellows and members should contact the Membership Department:

**Email: [membershipqueries@rcplondon.ac.uk](mailto:membershipqueries@rcplondon.ac.uk) Tel: +44 (0)20 3075 1362/1467**

Institutional subscribers to *Clinical Medicine* should contact Julie Dalton, Publications Department:

**Email: [julie.dalton@rcplondon.ac.uk](mailto:julie.dalton@rcplondon.ac.uk) Tel: +44 (0)20 3075 1358 Fax: +44 (0)20 7486 5425**



**Royal College  
of Physicians**

**10% discount for fellows and members**

Quote the reference *Clinical Medicine* when making your order