Steroid-dependent patients with multiple co-morbidities are more vulnerable to adrenal crisis

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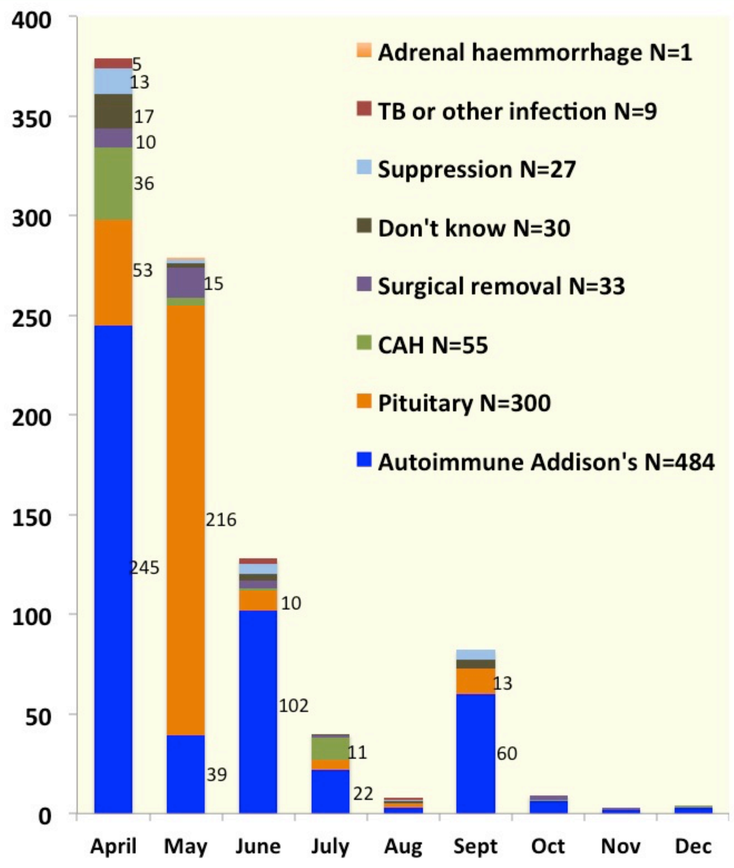
INTRODUCTION

Steroid-dependent patients have a lifelong dependency on replacement therapy and a lifelong vulnerability to sudden death from undertreated adrenal crisis.

We invited members of the main UK support groups representing steroid-dependent patients to complete an online questionnaire identifying the frequency, causes and location of their adrenal crises (episodes needing injected steroids and/or IV fluids). Respondents were asked to describe the nature and timeliness of their medical treatment and to provide demographic information that explored predisposing factors. 1046 patients belonging to the UK support groups for pituitary conditions, Addison's, endocrine cancer and congenital adrenal hypoplasia gave responses.

The ADSHG's online emergency survey attracted 1046 responses from steroid-dependent patients and their parents/carers

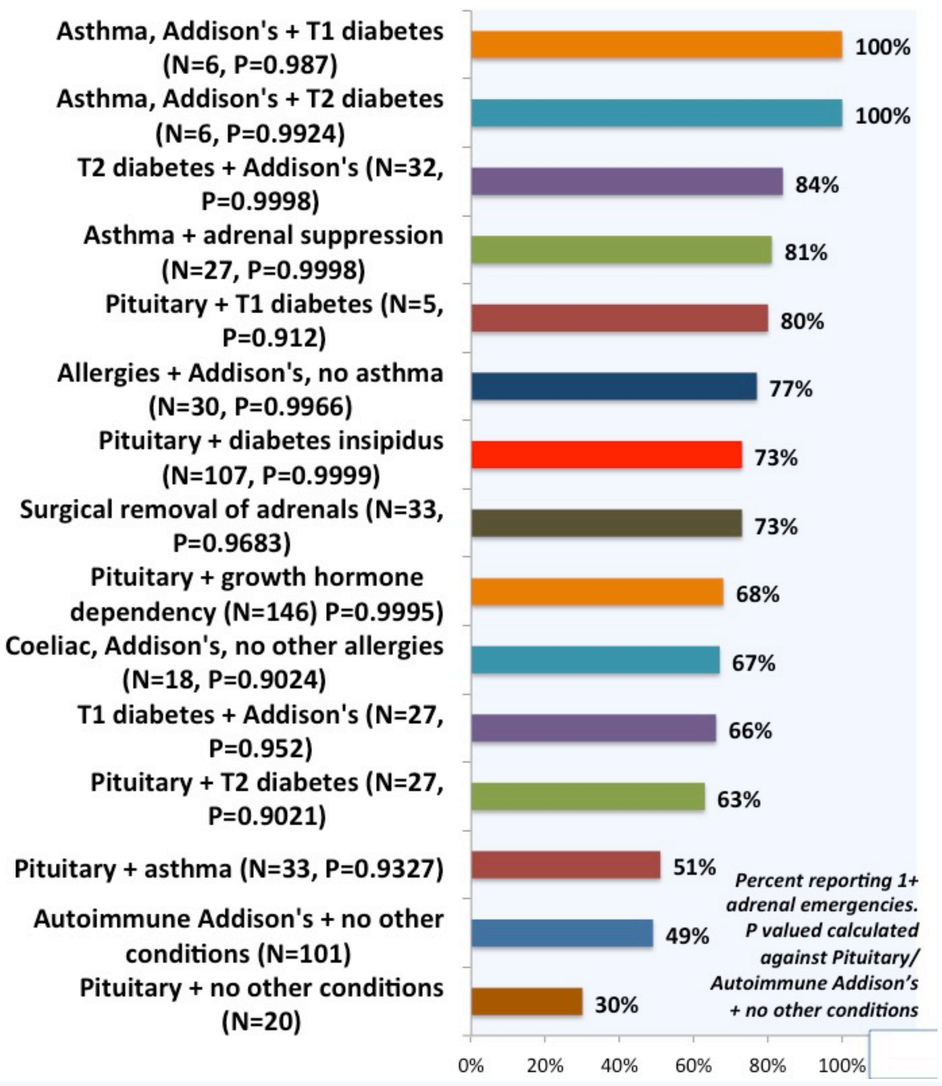
Number of responses Apr – Dec 2013



DISCUSSION

Co-morbidities act to destabilise steroid-dependence

Percent reporting one or more adrenal emergencies since diagnosis
P values calculated against pituitary/autoimmune Addison's with no other conditions



Patients with co-morbidities reported more frequent crisis episodes. Rates of post-diagnosis adrenal crisis ranged from 30% to 100%, with co-morbidities acting as a multiplier.

Asthma and diabetes were the co-morbidities that acted to destabilize steroid-dependence most strongly. Those patients whose fluid balance is medication-dependent – primary adrenal insufficiency and diabetes insipidus – were less stable and more vulnerable to adrenal crisis, than those with secondary adrenal insufficiency and intact fluid homeostasis.

CONCLUSIONS

Good patient education and readiness to self-treat remain important for the steroid-dependent patient, especially those with multiple co-morbidities, as delays in the medical response can be predicted for roughly one-third of patients experiencing adrenal crisis.

REFERENCES AND CONTACT

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See especially:

Erichsen M et al, Normal overall mortality rate in Addison's disease, but young patients are at risk of premature death, *Eur J Endocrinol.* 2009;160:233-7. doi: 10.1530/EJE-08-0550., http://eje-online.org/content/160/2/233.long

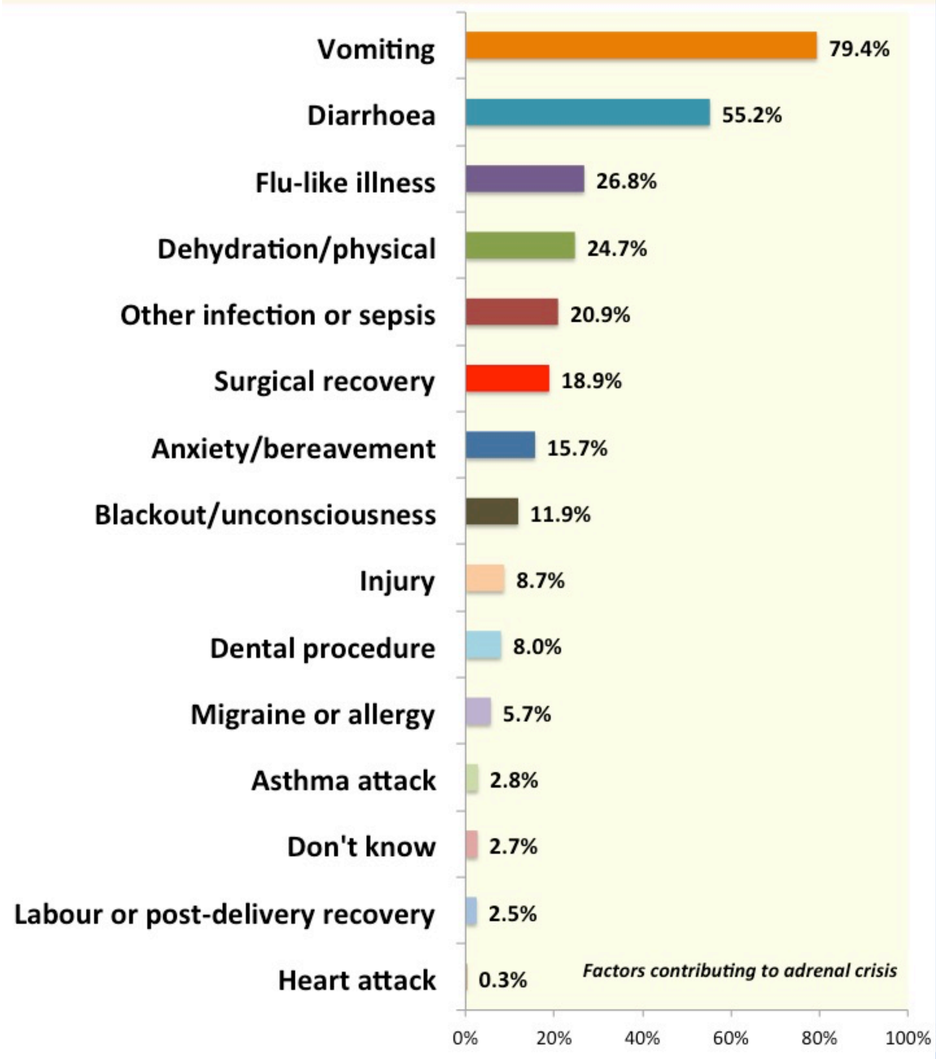
FINDINGS

Vomiting was the overwhelming factor triggering crisis episodes, reported in around 80% of cases. The most common location, at 70%, was the home. 9% reported they were already a hospital inpatient and their adrenal crisis was iatrogenic – that is, triggered by insufficient steroid medication during surgical recovery or post-labour.

For their most recent crisis, over one-third either gave themselves an initial injection of 100mg hydrocortisone IM, or received this from a partner, parent, child, friend or neighbour.

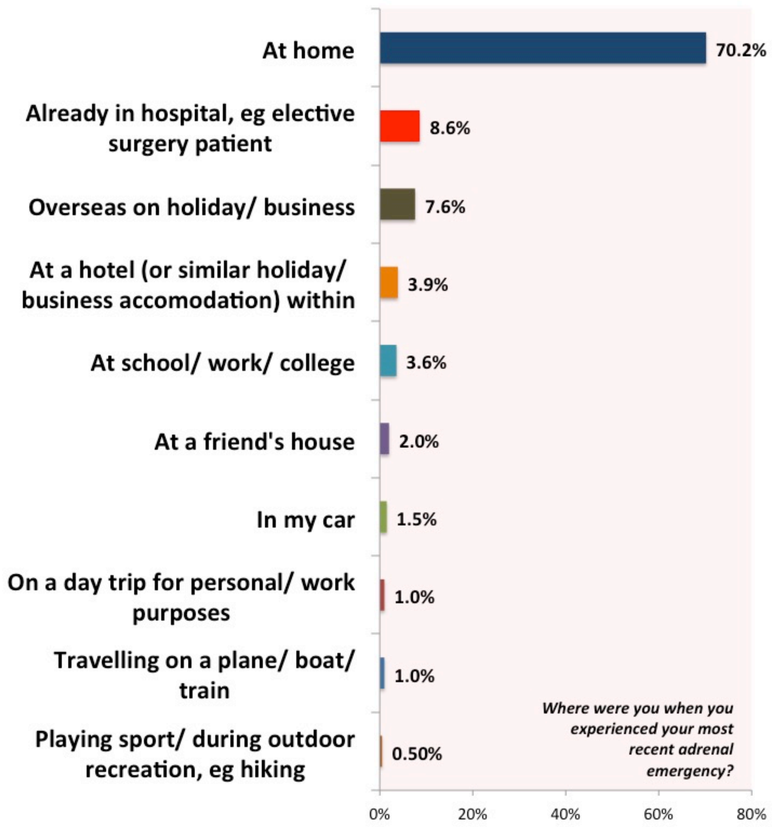
Vomiting was a causal factor for 80% of all adrenal crisis episodes. Almost 20% occurred during surgical recovery

Percent of responses N = 598



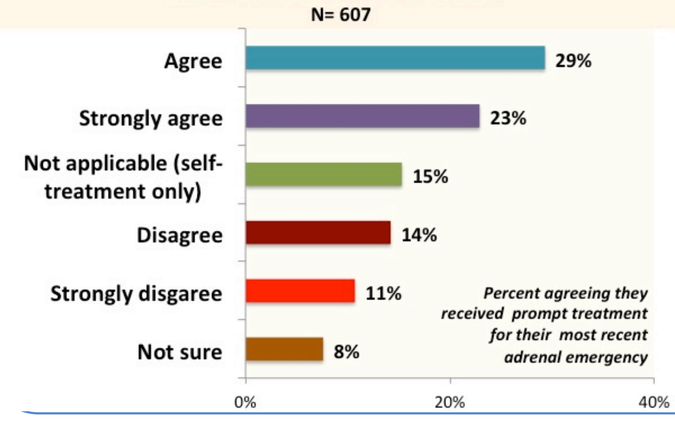
30% of adrenal crises happened while the patient was away from home. Nearly 9% resulted from steroid undertreatment for patients already in hospital

Percent of responses N = 591



One-third of respondents did not believe they received prompt medical treatment for their most recent adrenal emergency

N= 607



Two-thirds of all respondents were happy with the quality of the medical treatment they received for their most recent adrenal emergency. The largest factor influencing satisfaction levels was the timeliness of the medical response. Less than two-thirds thought they had received prompt medical treatment.

- *"I initially used the 111 service and they did not put a foot wrong. I was in hospital within 2 hours of ringing the service during which time I had seen an out of hours doctor who actually admitted me."*
- *"There were no positive aspects to my treatment. I phoned 111 and they refused to send a paramedic or ambulance and they said I didn't need it. It was bank holiday weekend."*
- *"I was thoroughly satisfied with my treatment."*
- *"When paramedics arrived after 3 hours, they were very knowledgeable about Addison's and gave prompt treatment"*
- *"No-one listens and tells you to wait, despite desperate pleas for help. The quickness of treatment is non-existent."*
- *"Caring GP who attended when husband didn't feel able to use injection kit and I so rapidly felt too ill to be able to administer it myself."*
- *"Things improved when they actually listened to me, but I suffered some hours before they began proper treatment."*