CASE REPORT

Acute confusion secondary to steroid eye drops

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SUMMARY

We present a case of a 90-year-old woman who presented to the acute medical unit with a new onset presentation of confusion. Her abbreviated mental test on admission was 5/10. Biochemical screen including full blood count, urea and electrolytes, C reactive protein and liver function test and imaging such as chest X-ray and CT of the head were normal. The patient had recently been started on steroid eye drops for shingles. Suspension of this medication was followed by a resolution of confusion with the abbreviated mental test on discharge improving to 9/10. To the best of our knowledge, this is the first presentation of a link between steroid eye drops and acute confusion.

BACKGROUND

To the best of our knowledge, there is no compelling evidence existing that has identified a link between short-term use of steroid eye drops and the development of acute confusion or psychosis. We have submitted a report to the Yellow Card regulatory authority so that this link is put onto the medicines database.

CASE PRESENTATION

A 90-year-old woman presented to the acute medical unit with a 4-day history of new onset confusion and hallucinations. She had been started on steroid eye drops (fluorometholone 0.1% three times a day) 4 days prior to presentation by her general practitioner due to a recent (3 week) diagnosis of shingles. She had no significant medical history and was not on any other medications that could have caused confusion. Examination of systems was normal except her abbreviated mental test (AMT), which on admission was 5/10.

INVESTIGATIONS

Biochemical confusion screen including full blood count, urea and electrolytes, C reactive protein and liver function test was normal as was her chest X-ray and head CT.

DIFFERENTIAL DIAGNOSIS

A diagnosis of steroid-induced acute confusion and psychosis secondary to recently started eye drops was made.

TREATMENT

Suspension of the offending medication correlated with rapid clinical improvement.

OUTCOME AND FOLLOW-UP

After 3 days in hospital, her symptoms had fully resolved and her AMT on discharge was 9/10.

DISCUSSION

The link between systemic side effects and steroid eye drops in children is well demonstrated¹ as are the systemic side effects of non-steroid eye drops in adults, such as with β -blockers or anticholinergics.² Furthermore, existing literature has established a formal link between long-term use of steroid eye drops and local side effects such as keratitis, cataracts or glaucoma induction.³ It is also acknowledged that older people are most at risk of systemic side effects from eye drops.⁴ Furthermore, it is well established that systemic steroids can lead to psychiatric phenomena such as the 'steroid psychoses'.⁵

However, to the best of our knowledge, there is no compelling evidence existing that has identified a link between short-term use of steroid eye drops and the development of acute confusion. Systemic absorption from the use of eye drops is inevitable, with some studies suggesting as much as 80% may enter systemic circulation.⁶ There are several techniques recommended in order to reduce this risk: using the lowest concentration of drug possible, blotting away excess drops and occluding the nasolacrimal passage after administration may help.¹ These are essential to perform in cases where the eye drops are sight saving, such as in the very young or elderly, or indeed life saving such as in pregnant women. We hope that this case report will serve to increase awareness of an iatrogenic cause for an extremely common presenting symptom in acute medical units across the world.

Learning points

- ▶ Steroid eye drops have a propensity towards causing systemic side effects such as acute confusion. Detailed drug histories are crucial when clerking a patient in with acute onset confusion.
- ▶ These side effects appear to be transitory, as in this case suspension of the medication led to resolution of symptomatology.
- ▶ Although systemic absorption is inevitable with eye drops, techniques to reduce the risk should be used where possible. Weight adjusted steroid eye drops prescriptions, as is advocated for children, may be merited in older patients.

Contributors UF compiled the case report with close input from BD, who was the doctor who saw the patient initially and followed up the patient.

Competing interests None.

Patient consent Obtained.

CrossMark

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