FEATURE

Medicinal mishap

Paediatric dosing errors with oral prednisolone mixture

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Case 1

The parents of an 18-month-old girl with croup called the Victorian Poisons Information Centre (VPIC) when they realised they had given their daughter three doses of prednisolone mixture during the day instead of one dose. She was also receiving amoxycillin syrup three times daily for an unknown indication.

The child had no symptoms of prednisolone toxicity. The parents were reassured that the child would be fine, although she might experience some mild gastrointestinal upset and be a bit irritable or difficult to settle.

Case 2

The parents of a nine-year-old girl suffering acute asthma phoned VPIC when they realised they had given their daughter three doses of prednisolone mixture daily for the previous two days instead of one dose daily for three days. They realised the error when the 30 mL bottle of mixture ran out. The child had facial flushing and nausea.

Case 3

A GP contacted VPIC for advice about an 18-month-old boy with croup who had been given 2 mL of prednisolone mixture three times a day for two days instead of the prescribed 2 mL daily for three days. His parents had misread the label. The parents described the boy as being restless and difficult to settle to sleep for the last 24 hours. The GP was advised to stop the prednisolone and reassure the parents that the child's symptoms would resolve.

Comment

In all these cases the VPIC was able to advise that the symptoms would resolve with no long-term adverse effects. The cases reflect an increasing number of calls (see Table) involving paediatric dosing errors with oral prednisolone mixture. We believe this is because the dosing directions are misunderstood.

Prednisolone is most commonly prescribed daily, and patients are advised to take it with or after food. If a label is written: 'Give 3 mL daily after food for three days', this could be interpreted as dosing three times a day. This may occur because there are three meals daily, or perhaps because prednisolone is often co-prescribed to children with an oral antibiotic that is given three times a day.

This dosing error does not usually lead to significant clinical consequences. Prednisolone toxicity is low for a single acute overdose or excessive dosing of short duration. However, adverse effects may occur and include gastrointestinal effects (nausea, vomiting, abdominal distension, increased appetite), insomnia, restlessness and increased motor activity.

Recommendations

To reduce dosing errors with prednisolone, we suggest that prescribers explain to parents that this mixture is only given once a day. We also suggest that pharmacists carefully consider the label instructions and reinforce them with verbal counselling. For example: 'Give the child 3 mL once daily in the morning. The dose is best given after breakfast.'

Conflict of interest: none declared

Table **Dosing errors with oral corticosteroids reported to the Victorian Poisons Information Centre**

Year	Calls involving oral corticosteroids	Calls involving paediatric oral prednisolone mixture
2013	130	80 (62%)
2014	147	94 (64%)
2015	157	102 (65%)

FURTHER READING

Lalor D. Medicines labelling. Aust Prescr 2011;34:136-8.
http://dx.doi.org/10.18773/austprescr.2011.072