Aerosol treatment abuse

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SUMMARY A 4 year old boy with excellent inhaler technique was found to be abusing his salbutamol and beclomethasone dipropionate inhalers. This resulted in aggressive behaviour and probable hallucinations.

Glue sniffing, inhalation of domestic aerosols, and using illegal drugs are becoming common among teenagers but children of preschool age rarely arouse suspicion. We report the case of a 4 year old boy who abused his salbutamol and beclomethasone aerosols.

Case report

A 4 year old boy with asthma was referred to this hospital because he was using his salbutamol and beclomethasone aerosols too often. His three brothers and his father also used beclomethasone and salbutamol aerosols regularly.

At the age of 3½ he became intolerant of his salbutamol Rotahaler capsules and was given salbutamol and beclomethasone dipropionate aerosols. Surprisingly, his technique of using the inhalers was perfect, and we made a video recording of it.

During the previous three weeks at school he had demanded his salbutamol aerosol up to 10 times a day. Administration at home had also increased despite minimal asthmatic symptoms, and he had become increasingly aggressive. His mother had noticed that over a period of three days, four beclomethasone inhalers had been taken from the cupboard and were empty. The following day the precocious 4 year old was found underneath the cupboard, having inhaled one complete aerosol of beclomethasone and half way through his second. He was noted to be agitated, and repeatedly tried to push an imaginary person away from his left ear.

Three months before this, his mother had noted similar changes in behaviour with increased demands for aerosols. Four aerosols were missing from the house. Putting the blame on her older boys she moved the aerosols to a different cupboard: the boy's behaviour improved. On this occasion a change was made to salbutamol and beclometha-

sone Rotacaps with no ill effects, and he had no obvious withdrawal symptoms.

Discussion

Pressurised aerosols had been effective in treating this boy's severe asthma and we were amazed at his competence in using them. His increased use of them at school may well be ascribed to attention seeking, but subsequent draining of aerosols secretly at home was not. As his craving disappeared after changing to a dry powder system, it seems that his craving was not for the salbutamol or the beclomethasone, but for the fluorocarbons used as propellants.

In older children and adults the patient controls his or her own treatment, and monitoring of drug consumption can be difficult; there have been reports of abuse of salbutamol and beclomethasone aerosols in adults.¹ The effects of abuse ranged from euphoria, increase in self confidence, and hallucinations to a report of a grand mal fit.² These effects were also attributed to the fluorocarbons used as propellants. It is important to be aware of aerosol abuse as fluorocarbons may cause cardiac arrhythmias, electroencephalographic changes, and death.⁴ Problems have also been encountered in children; Brennan reported salbutamol aerosol abuse in five children aged 11 to 13.³ Three of the five also took beclomethasone aerosols but did not abuse them.

If abuse of inhalers is suspected, a change should be made to a dry powder system such as Rotacaps and the Rotahaler device, or to a nebulised solution.

References

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