CASE REPORT

Oscillococcinum leading to angioedema, a rare adverse event

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Accepted 6 May 2015

SUMMARY

Oscillococcinum is an alternative medicine prepared by serial dilution of wild duck heart and liver extracts. This preparation has been labelled as a 'non drowsy, homeopathic medicine' that 'reduces the duration and severity of flu and flu-like symptoms'. Clinical evidence exists to support this claim and the product has not previously been reported to cause any serious adverse drug reactions. We bring to light, however, a case of angioedema in our patient who was using oscillococcinum for flu-like symptoms. Consumers must therefore exercise caution at the outset of allergy symptoms.

BACKGROUND

Oscillococcinum is an alternative medicine prepared by serial dilution of wild duck heart and liver extracts with water and alcohol. The inactive ingredients in the final product are lactose and sucrose. This preparation has been labelled as a 'non drowsy, homeopathic medicine' that 'reduces the duration and severity of flu and flu-like symptoms'. Although controversial, clinical evidence, gathered by comparing oscillococcinum to placebo, does exist to support this claim. Also, oscillococcinum has not previously been reported to cause any serious adverse drug reactions.

CASE PRESENTATION

A 34-year-old man with no significant medical history, presented to the emergency department (ED) with acute onset tongue swelling. The patient had been having flu-like symptoms and had taken a homeopathic medication called oscillococcinum for the relief of his symptoms. His vital signs on presentation were blood pressure of 126/71, pulse 103, respiratory rate (RR) 16 and temperature 97.3; saturation was 100% on room air. On presentation, he had mild stridor without any rash. He was noted to have a markedly swollen protruding tongue associated with drooling. He could not close his mouth due to the tongue swelling, and his speech was slurred. The rest of the physical examination was unremarkable.

INVESTIGATIONS

The patient's laboratory data showed a white cell count of 7800 cells/mm³, with 67% neutrophils, 18% lymphocytes, 12% monocytes and 3% eosinophils. L C1 esterase inhibitor level was mildly elevated at 40 mg/dL. C4 level was 27 mg/dL, erythrocyte sedimentation rate was elevated at

19 mm/h and C reactive protein at 66.1 mg/L. Chest X-ray showed no acute pulmonary pathology.

TREATMENT

In the ED, the patient was given epinephrine intramuscularly 0.3 mg (1:1000), and diphenhydramine 25 mg and methylprednisolone 125 mg intravenously; the patient was admitted to the intensive care unit for close monitoring, due to imminent danger of respiratory compromise and the need for possible intubation. He was continued on diphenhydramine 25 mg intravenously every 6 h, and methylprednisolone 60 mg intravenously every 8 h.

OUTCOME AND FOLLOW-UP

The patient's tongue swelling gradually improved, and finally resolved over the next 24 h. He was able to tolerate an oral diet and his speech returned to baseline. He was discharged with a tapering dose of prednisone, cetirizine 20 mg daily and an epinephrine pen. He was advised to follow-up with an allergist. The final diagnosis was angioedema due to oscillococcinum.

DISCUSSION

Oscillococcinum is a unique, original and patented homeopathic medicine prepared from a specific extract of duck liver and heart.¹ Casanova and Gerard, in 1988, showed that oscillococcinum was effective in treating influenza syndrome, in that it more rapidly relieves the characteristic symptoms of this illness compared to placebo.² This was further reinforced by Ferley *et al*³ and Papp *et al*⁴ in their respective randomised double blind studies.

The recommended treatment of any influenza or influenza-like illness consists of bed rest, analgesics or antipyretics if needed, and adequate hydration. However, any medication that reduces the duration of such illness and the time taken to resume work has a socially significant effect. It is therefore that this homeopathic drug has gained popularity. A Cochrane review in 2015 on oscillococcinum concluded that the evidence regarding its use in prevention or treatment of influenza or influenza-like illness was insufficient. They could not rule out a possibility that the drug could have a clinically useful treatment effect, but termed the evidence non-compelling based on the low quality of eligible studies.⁵

The Cochrane review from 2015 also concluded that there was no evidence of clinically important harms due to oscillococcinum. Marrari *et al* also reported an excellent safety profile of the drug and thus recommended the use of the drug because of

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To cite: Azmi Y, Rao M, Verma I, *et al*. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2015-210410

the lack of adverse effects. This was in contradiction to our experience with this patient. Our patient developed symptoms of anaphylaxis with presentation of angioedema immediately after consuming the drug. A further review of the adverse side effects reported to the Food and Drug Administration (FDA) in the USA was performed. Of the nine people who reported clinically significant adverse effects to the FDA, three had suffered from angioedema.⁶ The Naranjo Adverse Reaction Scale was used to assess the probability of the drug causing the adverse reaction. A score of six was achieved on the scale indicating the drug as a 'probable' cause of the mentioned adverse reaction.⁷ A rechallenge could not be performed due to the fatal nature of the adverse effect. This is the first article in the literature reporting such an adverse effect of this homeopathic drug, which has

gained popularity against influenza and influenza-like illnesses. There needs to be further monitoring and reporting of adverse effects related to this drug. This is especially important considering the fact that the efficacy of the drug is questionable.

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Acknowledgements The authors would like to acknowledge the contributions of the Department of Emergency Medicine and Department of Pulmonary and Critical Care at Monmouth Medical Center.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Learning points

- ▶ The evidence regarding use of oscillococcinum for influenza and influenza-like illness is insufficient.
- ▶ The drug oscillococcinum is not without its own adverse effects, including life-threatening adverse effects such as angioedema.
- ▶ The use of oscillococcinum should not be without understanding the risks of these adverse effects and use of the drug should be more closely monitored.
- ▶ Further reporting of such side effects needs to be performed to create further awareness.

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