PULMONARY PUZZLES

The bird it was that died

Hannah Povey, Duncan Cameron

A family of four from North Wales had a miserable Christmas. Their misfortune began in early December with the sudden death of their two pet lovebirds within 24 h of each other (figure 1). Over the Christmas period they suffered further adversity as the mother developed a flu-like illness with generalised body aches, lethargy and worsening of her prolactinoma headaches. Her 4-year-old daughter developed similar symptoms, while her 2-year-old son was ‘reasonably well but not quite himself’. The father also developed mild flu-like symptoms when he returned home from working away.

At the turn of the New Year their favourite bird, a parrot named Bentley, dropped dead suddenly and unexpectedly. This was the last straw; the mother consulted a diagnostic website.

QUESTIONS
What is the unifying diagnosis, for bird and human? What historical resonances does the case have? Why is this diagnosis easily missed?

ANSWER See page 1179

Competing interests None.

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Figure 1 Bentley - the Indian ring-necked parrot. Published with permission from the family who owned Bentley.
The diagnostic website ‘Top Ten Bird Killers’ listed several causes of death in pet birds. Third on the list after inadequate water supply and flying accidents comes the category of toxic substances. These include hair spray, air freshener and also carbon monoxide poisoning. The family attended casualty where their carbon monoxide levels were found to be elevated at 7, 10 and 7 for the mother, daughter and son, respectively—notably, these levels were taken several hours following evacuation from the house. Non-smokers may have up to 3% carboxyhaemoglobin at baseline; smokers may have levels of 10–15%. Their symptoms resolved and they all made a full recovery. Ventilation for their gas cooker was found to have been inadequate; it was replaced by an electric cooker.

The sudden death of the birds had alerted the family to danger; this has historical resonance with the practice of taking canaries down into the mining pits, a tradition dating back to 1911. Birds in general are very sensitive to harmful gases, and canaries in particular were selected as they provided the additional benefit of an auditory stimulus. If the canaries stopped singing, there was a reason. Sudden death of the canaries would alert miners to the presence of harmful gases such as methane and carbon monoxide. The use of canaries was discontinued in 1987 when canaries were replaced by electronic monitors.

The birds did not die in vain. The family had a narrow escape, but the outcome could have been catastrophic. This case serves as a reminder of the dangers of carbon monoxide, the silent killer. Its dangers lie in its properties as an odourless, colourless and tasteless gas and in its presentation; symptoms of carbon monoxide poisoning are insidious in onset and are varied and non-specific in nature. Symptoms may include any one or a combination of:

- Headache
- Lethargy
- General malaise
- Drowsiness
- Dizziness
- Nausea and vomiting
- Diarrhoea
- Seizures
- Syncope

Although symptoms such as headache tend to be commoner, patients may present with diarrhoea and vomiting alone, symptoms not always immediately suggesting carbon monoxide poisoning. Such a presentation may erroneously be ascribed to a household outbreak of gastroenteritis. Symptoms are even subtler and more vague in infants and toddlers than in older children and adults, as was seen in our case. A high index of clinical suspicion is essential in suspecting the diagnosis. Any suspicion at all warrants measurement of carbon monoxide levels, as failure to diagnose can be catastrophic. There has been a recent increase in deaths from carbon monoxide poisoning, and it is speculated that this is partly a consequence of the economic downturn with people not being able to finance the maintenance of their appliances, and partly due to some long spells of cold weather.
Prevention is better than cure; servicing appliances regularly and investing in carbon monoxide alarms reduces the risk of poisoning. In the event of poisoning, immediate removal of the patient from the source is essential. Medical treatments include the administration of high-flow oxygen via a non-rebreathing mask that reduces the half-life of carbon monoxide significantly.\(^1\) Hyperbaric oxygen therapy reduces the half-life further still.\(^1\)

Despite a lot of publicity, people continue to die from carbon monoxide poisoning. For that reason, all doctors need to be alert to the possibility of carbon monoxide as a cause of subtle and non-specific symptoms—especially if the lovebirds are dying.

REFERENCES


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**Figure 4** Canaries: a warning system for coal miners. Published with permission from robirda.com (www.robirda.com).
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