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EDITORIAL

SIDS theory: from hype to reality

There are few more emotive topics than cot death. For example, about 1 in 1400 babies in the UK die from sudden infant death syndrome (SIDS). Parents of children who die from SIDS not only have to cope with grief but also face guilt and recrimination when thinking that they might have been able to avoid the tragedy. Worse, they may face accusations from relatives and friends, or even police investigation. The introduction of "Back to sleep" campaigns for babies was followed by reduction in the incidence of SIDS in those countries that adopted the strategy of educating parents not to let their babies sleep prone. The frequency was approximately halved in the UK in 1992, where campaigns started in autumn, 1991.

In 1989 rumblings began of a possible new cause of SIDS and, in March, 1990, an independent consulting chemist, Barry Richardson, reported in this journal finding a fungus, *Scopulariopsis brevicaulis*, in mattresses associated with SIDS cases. The claim was that incubation of infected materials generated toxic trihydride gases: stibine from antimony trioxide added as a fire retardant, phosphine from phosphate plasticisers, and arsine from the preservative 10,10'-oxybisphenoxyarsine or from arsenical impurities in antimony trioxide. The UK Department of Health asked a clinical Pharmacologist, the late Paul Turner, to head an expert group study the findings. The 1991 Turner report found no evidence that mattresses generated toxic gases.

That might have been that, except for two UK television broadcasts in late 1994 (Nov 17 and Dec 1) by the investigative journalist Roger Cook which reopened the toxic-gas theory of cot death. The *Cook Report* put the toxic-gas hypothesis back in the frame, since Cook described findings that reported the presence of antimony in tissues from SIDS cases. Other media could not resist the story ("Panic over cot death claim" and "Parents panic after TV report" were typical headlines). The government's chief medical officer responded by asking Lady Sylvia Limerick to

lead another committee to review Turner's and subsequent findings.

A study commissioned by the group is reported in this issue, along with a letter from another team (pages 1516 and 1557). Warnock et al replicated Richardson's experiments with his cooperation and observations, but with the addition of physicochemical analysis. Samples of polyvinylchloride mattress covers linked to SIDS cases were obtained from Richardson, as were similar samples from a UK cot-death charity (Foundation for the Study of Infant Deaths), and incubated on nutrient media. Microorganisms grew, but they were species of *Bacillus*, common environmental bacteria, not *S. brevicaulis*. Chemical indicator papers added to the culture dishes (as in Richardson's original work) did change colour, but in the presence and absence of mattress samples. Analysis showed that the test-paper deposits were not antimony, phosphorus, or arsenic. Sulphur generated by the bacteria is the likely cause of the colour change.

Richardson tested his hypothesis within the limits of his resources. He is also to be commended for his cooperation with Limerick's expert group. **Yet he appears fixated on his theory;** earlier this year, he said in this journal that other SIDS precautions "will become irrelevant when the critical elements have been eliminated from cot mattresses". **An overzealous proponent of a pet theory and a media crusader do not make a good pairing.** The media do have a role in driving public opinion and reaction but, especially in science reporting, they must be responsible and reasonable in their interpretations. The public also demands and gets a more science oriented media, and has a right to know about potentially hazardous manufacturing practices. Sadly the fault seems to lie with those journalists who let their enthusiasm for a sensational story overshadow cautious and careful reporting.

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