Evaluation of nebulisers

Sir,

We were interested in the paper by Tsanakas et al., and agree that it is important to have a nebuliser with the minimum variation in output when performing bronchial challenge tests. We were concerned, however, that the authors calculated the output of the nebuliser by weighing the device before and after nebulisation. This method does not give a true idea of the output of the nebuliser. As the nebulised cloud forms there is a huge cumulative surface area formed by the aerosol droplets. Most of these droplets are returned to the nebuliser solution by a series of baffles, allowing only the finer particles to escape. At the same time some evaporation takes place. The weight loss from the nebuliser, therefore, is due to dispersion of particles of the drug, such as histamine solution, but also to evaporation. Depending on which nebuliser is used, calculating the output by weighing the device before and after nebulisation may result in an overestimate of drug output of up to 50% (unpublished observations).

To measure the output of our nebulisers we used a multi stage liquid impinger which catches the nebuliser cloud as it emerges from the nebuliser. The impinger separates the cloud into fractions comprising particles of varying sizes and we then assayed the amount of drug in each fraction, so determining not only the actual amount of drug that leaves the nebuliser but also the amount of drug in particles that are likely to reach the lungs.

Reference


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Sudden and unexpected death between 1 and 5 years

Sir,

The report by Southall et al. that one third of the deaths in their series of infants between 1 and 5 years were unexplained begs the question of why such a common phenomenon is not more widely recognised nor apparent from the Registrar General's annual mortality figures. I think that most pathologists would concede that unexplained deaths occur throughout childhood, adolescence, and adult life although not with the frequency seen during the first postnatal year.

When the sudden infant death syndrome was officially recognised by the Office of Population Censuses and Surveys (OPCS) as a distinct entity, the rise in deaths from this cause was matched by a decline in deaths from respiratory infection. 2 I can only suppose that the apparent rarity of unexplained deaths between 1 and 5 years has a