

The number of samples studied (1000 approx) for evaluating UIE in a sub group of USES children is by no means a small number. I agree with Dr Kapil that different methodologies can report different values of UIE, but we have used the same Wet Ashing method using perchloric acid vanadate as in earlier studies.

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Air Mixing with IV Fluids and Injection?

In our day to day practice we come across situations when air comes in contact with IM/IV injections/ vaccines being given to a patient/a vaccine recipient or IV fluids in which air enters into the saline bottles. Surprisingly we don't get any finding of subsequent infection in the recipient. Why is it so? As because we have to use sterile water for injection for preparing parental injections/ vaccines but not sterile air. I would like to know the reason behind sterility of air entering into IV/IM injections.

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REPLY

Dr Sidana has raised an important issue. The air does carry bacteria, spores, etc. The particulate matter in air is also likely to be contaminated. The degree of contamination of air is variable depending on the quality of air handling system in use. It is well documented that use of non-vented systems for delivering iv fluids leads to a decrease in the bacteremias(1,2). The use of rigid/ semi-rigid bottles, which require an air-vent are more likely to be contaminated due to the vented air. The bacteria have been shown to proliferate in the intravenous fluid(3). The available data suggests that the air, that

enters the IV fluid bottles through a vent (in-built in the IV set or a needle that is inserted into the bottle), is likely to increase the risk of bacteremia in children.

On the other hand, the volume of air that would come in contact with the medications in a vial/ ampule is likely to be small. So, the risk of contamination and that of infection due to contact of medication with air in recipients of IM/IV medications is likely to be small. However, it may be desirable to prepare all injections under a sterile hood/laminar flow, particularly when these have to be used in at-risk patients such as preterm neonates, immunocompromised children, critically ill children in PICU.

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