



Review Article

All New and Modern Devices May Not be Safe

Ankit Agarwal* and Mukesh Tripathi

Department of Anaesthesiology, All India Institute of Medical Sciences, Rishikesh, India

*Corresponding author

Introduction

Medical Science is evolving at a fast pace. Every few days one witnesses addition of new equipment, diagnostic procedures, treatment methods and drug library.

The newer and newer procedures and equipment find place because, they either claim to make a process easier, quicker or more accurate.

In spite of these benefits, the newer modalities may not always be safe. Recently we had received in the operation theaters of our hospital, a blood and fluid warming device. The purpose of this device was to pre warm the blood or intravenous fluid before administering it to a patient so that the complications like hypothermia and shivering can be avoided. The principle of this equipment was that instead of a standard 80-100cm IV Tubing, a long tubing of around 500 cm was used. This tubing was coiled around a heater. The upper end of the tubing was connected to the IV fluid bottle and the lower end was attached to the IV cannula. The temperature of the heater could

be set as desired with a thermostat and therefore the procedure became automatic with no need to manually heat the fluids or assess their temperature.

But despite these advantages, we observed a big drawback. As the fluid in the coiled tubing around the heater got heated, it released the dissolved gases. Tiny bubbles of gases were formed which coalesced to form big air columns. The air columns formed were as big as 5- 10 cm per 500ml of fluid, depending on the temperature (Fig 1). This air column had to be repeatedly removed from the tubing so as to prevent it from entering intravenously.

This air, if not removed could pose a danger to the patient.¹ Although the exact amount of air that is dangerous is controversial, still it can cause complications in those who are prone such as paediatric and cardiac patients.^{2,3}

Therefore, before accepting new techniques and equipments for their ease of use, their safety must be ensured.

Figure.1



References

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