

Air Embolism Associated with the use of Hydrogen Peroxide – A Warning

Recently the Victorian Consultative Council for Anaesthetic Mortality and Morbidity (CCAMM) reviewed a case involving oxygen embolism, associated with the irrigation of external fixator pin sites with hydrogen peroxide. The collapse was very dramatic but with aggressive and timely resuscitation there was a good outcome.

Two similar cases were reported in the *Journal of Bone and Joint Surgery* in April 2004.

Reference – “Air embolism associated with irrigation of external fixator pin sites with hydrogen peroxide”

N.HENLY, D.A. CARLSON, D.M.KAEHR & B CLEMENTS
JBJS 86A: 821-822 2004

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The Victorian Surgical Consultative Council approached Dr Anita Boecksteiner (Orthopaedic Surgeon), who is frequently involved in the management of pin sites as she has a major interest in the correction of limb deformities. As far as she is aware there have been no other cases in Victoria.

This serious complication may occur with the injection of hydrogen peroxide under pressure into a semi-confined or confined space, or even into a soft tissue space, which is rich in vascular channels. The complication has been reported under many different circumstances. For example:-

- Irrigation of perianal and vulval fistulae
- In the thoracic cavity
- In the posterior cranial fossa
- With the use of large quantities of irrigation fluid in spinal surgery
- The irrigation of the medullary canals of the major long bones i.e. tibia & femur
- The forced lavage of large muscle wounds

The common thread in all reports is irrigation using a syringe and therefore applying some pressure and mostly into closed areas. Using hydrogen peroxide in packing gauze does not seem to cause similar problems.

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