Only for the Use of Medical Professionals

Halosin®

Halothane BP

Presentation

Halosin®: Colourless, volatile liquid, non-explosive and non-flammable in the concentration usually used. Chemically, it is 2-bromo-2-chloro-1, 1, 1-trifluoroethane stabilized with thymol 0.01% w/w (Halothane BP).

Uses:

Halosin®is a volatile anaesthetic which is suitable for the induction and maintenance of anaesthesia for all types of surgery and in patients of all ages.

Mode of action

When inhaled, Halosin®is absorbed through the alveoli into the bloodstream. In the bloodstream, Halosin®circulates through the body to the principal site of action, the brain. Here Halosin®causes a progressive depression of the central nervous system, beginning with the higher centers (cerebral cortex) and spreading to the vital centers in the medulla. This depression is reversible. However, its mode of action, like all anaesthetic agents, is unknown.

Halosin®has a relatively low solubility in blood and therefore alveoli/blood concentrations equilibrate rapidly. The triexponential decline in Halosin®blood concentrations following the end of administration is thought to represent distribution into three compartments; the vessel rich group (brain / heart / liver), the musculature and adipose tissue. Approximately 80% of the inhaled Halosin®is eliminated unchanged by the lungs. The remaining 20% is metabolized in the liver by oxidative and under hypoxic conditions, reductive pathways. The main metabolites are trifluoroacetic acid, bromide and chloride salts (via the oxidative pathway) and fluoride salts (via the reductive pathway). The concentrations of metabolites peak 24 hours post-operatively and are eliminated by renal excretion during the following week.

Dosage and administration

A number of anaesthetic vaporisers specially designed for use with Halosin®are available. Open, semi-open, semi-closed and closed circuit systems have all been used with good results.

For induction of anaesthesia in the adult patient, a concentration of 2-4% Halosin®in Oxygen or Oxygen / Nitrous Oxide may be used. In children, a concentration of 1.5-2% Halosin® in Oxygen or Oxygen / Nitrous Oxide is used. A concentration of 0.5-2% is usually adequate for maintenance of anaesthesia in both adults and children. The lower concentration is usually most suitable for elderly patients.

Contra-indications, warnings, etc.:

Halosin® can induce liver damage; however, the incidence of severe liver damage (jaundice, which may lead to hepatic failure as a consequence of massive hepatic cell necrosis) is unknown. The risk of developing hepatic failure appears to be increased by repeated exposure. Although short intervals of time between exposures are likely to increase the risk of hepatotoxicity, even long intervals between exposures may not eliminate the risks, since some patients have developed severe reactions following Halosin® given many years after the previous exposures. On the

information which is available at the present time, it is advised that the following precautions be taken
(i) A careful anaesthetic history should be taken prior to use, to determine previous exposure and previous reactions following Halosin® anaesthesia.
(ii) Repeated exposure to Halosin® within a period of at least 3 months should be avoided unless there are overriding clinical circumstances.
(iii) History of unexplained jaundice and pyrexia in a patient following exposure to Halosin® is a contraindication to its future use in that patient unless absolutely essential.
(iv) Patients should be informed if they have developed a reaction possibly related to Halosin® anaesthesia; such patients should be provided with a medical alert card stating the problem.

As Halosin® causes relaxation of the uterine muscle; it is advisable that anaesthesia should be maintained in the lightest plane possible during obstetric operations.
The use of moderate hyperventilation during neurosurgery is recommended to counteract the rise in cerebrospinal fluid pressure which may occur with Halosin®
Malignant hyperpyrexia has been reported in some patients receiving Halosin®. This syndrome occurs with other anaesthetic agents and may respond to intravenous dantrolene sodium.

During the induction of Halosin® anaesthesia, a moderate fall in blood pressure commonly occurs. The pressure tends to rise when the vapour concentration is reduced to maintenance levels, but it usually remains steady below the pre-operative level. This hypotensive effect is useful in providing a clear operating field and a reduction in haemorrhage. However, if necessary, intravenous dose of methoxamine (5mg are usually adequate) can be given to counteract the fall in blood pressure.

Cardiac arrhythmias have been reported during anaesthesia.

Halosin® augments the action of non-depolarising muscle relaxants.

Caution should be exercised during administration of adrenaline to patients anaesthetised with Halosin® as dysrhythmias may be precipitated. For this reason the dose of adrenaline should be restricted and beta-receptor antagonists administered if necessary.

Ensure adequate room ventilation when Halosin® is being used. Keep the concentration of Halosin® in air as low as possible.

Pregnancy: Although the data from experimental investigations in animals cannot be directly related to man, it would be prudent to avoid general anaesthesia with inhalation agents during early pregnancy, except where such use is essential.

Lactation: There are no well controlled studies with Halosin® in lactating women. Halosin® has been detected in breast milk of lactating women, but the effect of Halosin® on breast fed neonates has not been established. However, Halosin® has been in wide use for over 30 years without apparent ill consequence.

Effect on ability to drive or operate machinery: Patients should be advised that performance at skilled tasks, such as driving and operating machinery, may be impaired for some time after general anaesthesia.

Accidental ingestion: Cases of ingestion must be treated symptomatically.

Pharmaceutical precautions
Bottles of Halosin® must be securely closed and stored in a cool dry place, protected from light. Halosin® must be kept in the original container until immediately prior to its use.
Whilst in the liquid phase, Halosin® must not be diluted or contaminated; however, in the vapour phase it may be administered together with Oxygen or a mixture of Nitrous Oxide and Oxygen.

Package quantities
Halosin® Liquid: Bottle of 250ml.

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