

Halothan

Synonym:

2-Brom-2-Chlor-1,1,1 -trifluorethan

Chem. Formel:



Vorkommen:

Seit 1956 im Handel.

Fluothane Inhalationsflüssigkeit (ICI-Pharma), Halothan Hoechst Flüssigkeit (Hoechst), Rhodialothan Inhalationsflüssigkeit (Rhöne-Poulenc)

Wirkungscharakter:

Inhalationsnarkotikum. Halbwertzeit 26 Min. 80% werden unverändert über die Lunge ausgeschieden, der Rest wird zu Trifluoressigsäure (12%) metabolisiert und über den Urin ausgeschieden.

Toxizität:

Therapeut. Dosis: 80-260 mg/1 im Blut (Trifluoressigsäure 130-300 mg/1, Bromide 52-180 mg/1)

Letale Dosis 45-650 mg/1 im Blut

Symptome:

Fieber, Gelbsucht, erhöhte Leberwerte (**Halothan-Hepatitis**), Tod.

Nachweis:

Gaschromatographie (Cole), Massenspektrometrie

Therapie:

Plasmaexpander im Schock, Natriumbikarbonat-Infusion zum Äzidoseausgleich

Literatur:

- ARDOIN, D., HINGSON, R. A., TOMARO, A. J., FIKE, W. W.: Chromatographic blood-gas studies of halothane in ambulatory oral surgical anesthesia. Anesth. Anal. 45: 275-281, 1966.
- CARNEY, F. M. T., VAN DYKE, R. A.: Halothane hepatitis: a critical review. Anesth. Anal. 51: 135-160, 1972.
- COHEN, E. N., TRUDELL, J. R., EDMUND, H. N., WATSON, E.: Urinary metabolites of halothane in man. Anesthesiol. 43: 392-401, 1975.
- COLE, W. J., SALAMONSEN, R. F., FISH, K. J.: A method for thegas Chromatographie analysis of inhalation anesthetics in whole blood by direct injection into a simple precolumn device. Brit. J. Anaesth. 47: 1043-1047, 1975.
- DUNCAN, W. A. M., RAVENTOS, J.: The pharmaekinetcs of halothane (Fluothane) anaesthesia. Brit. J. Anaesth. 31: 302-315, 1959.
- FINK, B. R., MORIKAWA, K.: A simplified method for the measurement of volatile anesthetics in blood by gas chromatography. Anesthesiol. 32: 451-455, 1970.
- HOFT, R. H., BUNKER, J. P., GOODMAN, H. I., GREGORY, P. B.: Halothane hepatitis in three pairs of closely related women. New Eng. J. Med. 304: 1023-1024, 1981.
- JOHNSTONE, R. E., KENNELL, E. M., BEHAR, M. G. et al.: Increased serum bromide concentration after halothane anesthesia in man. Anesthesiol. 42: 598-601, 1975.
- MAIORINO, R. M., SIPES, I. G., GANDOLFI, A. J., BROWN, B. R. Jr.: Quantitative analysis of volatile halothane metabolites in biological tissues by gas chromatography. J. Chrom. 164: 63-72, 1979.

- MAIORINO, R. M., GANDOLFI, A. J., SIPES, I. G.: Gas-chromatographic method for the halothane metabolites, trifluoroacetic acid and bromide, in biological fluids. *J. Anal. Tox.* 4: 250-254, 1980.
- REHDER, K., FORBES, J., ALTER, H. et al.: Halothane biotransformation in man: a quantitative study. *Anesthesiol.* 28: 711-715, 1967.
- SHARP, J. H., TRUDELL, J. R., COHEN, E. N.: Volatile metabolites and decomposition products of halothane in man. *Anesthesiol.* 50: 2-8, 1979.
- SPENCER, J. A. E., GREEN, N. M.: Suicide by ingestion of halothane. *J. Am. Med. Asso.* 205: 112-113, 1968.
- TINKER, J. H., GANDOLFI, A. J., VAN DYKE, R. A.: Elevation of plasma bromide levels in patients following halothane anesthesia. *Anesthesiol.* 44: 194-196, 1976.
- URICH, R. W., BOWERMAN, D. L., WITTENBERG, P. H. et al.: Head space mass spectrometric analysis for volatiles in biological specimens. *J. Anal. Tox.* 1: 195-199, 1977.
- WITTE, L., NAU, H., FUHRHOP, J. H. et al.: Quantitative analysis of trifluoroacetic acid in body fluids of patients treated with halothane. *J. Chrom.* 143: 329-334, 1977.
- WOLLMAN, H., SMITH, T. C: Uptake, distribution, elimination and administration of inhalational anesthetics. In *The Pharmacological Basis of Therapeutics*, 5th ed. (L. S. Goodman and A. Gilman, eds.), MacMillan, New York, 1975, pp. 71-80.