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Trifluoroacetic acid as metabolite of halothane

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IT HAS been assumed that halothane would not be metabolized as attempts to demonstrate halothane metabolites had been unsuccessful.[1] Meanwhile, with rats[2] and men[3] *in vivo*, inorganic bromide, and with rats *in vivo* and with liver slices *in vitro*, inorganic chloride[4] were found as products of metabolic dehalogenation. In rabbits we now could identify trifluoroacetic acid as a further metabolite.

Female rabbits received by stomach tube 4 g/kg halothane dissolved in polyethyleneglycol 1 : 1 (v : v) or were exposed to 0·75% halothane in air for 3 hr. Ethereal extracts of urine samples acidified with sulphuric acid were compared with trifluoroacetic acid (Fluka AG) by chromatography on Whatman paper No. 1 or thin-layer cellulose (Macherey–Nagel) with isopropanol : aqueous ammonia (4 : 1). For identification by infra-red spectrography urine, collected during nine days after peroral application, was acidified with sulphuric acid and extracted with ether. Absorption of this extract on Dowex 1, elution with 1% KBr solution and lyophilization yielded solid hygroscopic material from which concentrated sulphuric acid liberated a volatile acid. In vapour state as well as in carbon tetrachloride solution and as potassium salt, its infra-red spectra, between 2 and 15μ, were identical with spectra of corresponding preparations of trifluoroacetic acid. This acid is known as non-toxic.[5]

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