fluorescence was not detectable in smears made immediately after exposure to the drug. The addition of ascorbic acid as a buffer for tetracycline did not affect uptake into leucocytes, but enhanced the stability of the fluorophore.

Since cellular fluorescence was detectable at drug concentrations of 10 μg/ml. (a serum level attainable therapeutically) blood films from patients receiving tetracycline were examined. The results obtained were essentially similar to the *in vitro* observations.

In both lymphocytes and polymorphonuclear leucocytes the nucleus exhibited more intense fluorescence than the cytoplasm. This is contrary to the findings of du Buy & Showacre (1961) and Zuckerman, Baker & Dunkley (1968) that tetracycline is bound specifically to mitochondria in mammalian cells. The enhanced fluorescence in the nucleus may be a result of combination of the drug with DNA as described by Kohn (1961).

Further investigations are needed to elucidate the clinical importance of these results.

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A new metabolite of carbon tetrachloride

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The possibility of trichloromethyl radicals arising from homolytic cleavage of carbon tetrachloride *in vivo* was put forward by Butler (1961), and a role in hepatotoxicity for such radicals has been discussed (Slater, 1966). Gas-liquid chromatography with electron capture detection has provided a sensitive means of detecting $Cl_3C.CCl_3$ (Fowler, 1969). Traces of this dimer, which caused liver damage in sheep (Fowler, 1969) were detected in tissues of rabbits to which carbon tetrachloride had been administered.

Samples of liver, kidney, fat, muscle and bile were taken from rabbits 0, 6, 24 and 48 hr after administration of carbon tetrachloride (1 ml./kg) by stomach tube (20% v/v in olive oil). After extraction by heptane partition, carbon tetrachloride, chloroform and $Cl_3C.CCl_3$ were separated on an SE–30/Celite column. Identification of $Cl_3C.CCl_3$ was supported by comparison of retention times with standards on three columns: SE–30/Celite; SE–30/PEG 20M/firebrick and di(2-ethylhexyl) sebacate/chromosorb G.

Maximum concentrations (with standard deviations) of CCl_4 were in fat (6 hr: 787 ± 289 μg/g); of $CHCl_3$, in liver (6 hr: $4{\cdot}9 \pm 1{\cdot}5$ μg/g); and of the dimer, $Cl_3C.CCl_3$, in fat (24 hr: $16{\cdot}5 \pm 1{\cdot}6$ ng/g).

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