

CHAPTER VI

CONCLUSION

The effect of 10%, 15% and 20% ethyl palmitate emulsion on the erythrophagocytosis, sinusoidal liver blood flow and the phagocytic activity of the reticuloendothelial system were studied in rhesus monkeys (Macaca mulatta). The disappearance rates were also found to follow a first order reaction over the range that was observed. The results showed that the mean values of the half-disappearance time of ^{51}Cr -labelled red cells in 15% ethpalm monkeys (185 min) and 20% ethpalm monkeys (278 min) are longer than that of the normal monkeys (141 min). The prolonged half-disappearance times of ^{51}Cr -labelled red cells ethpalm monkeys indicated that ethyl palmitate depressed the erythrophagocytosis of these monkeys.

^{131}I -AA was used to study the sinusoidal liver blood flow and the phagocytic activity of the R.E.S. in 10 normal rhesus monkeys. The results showed that ^{131}I -AA was phagocytized by the R.E.S. according to an exponential function of blood concentration in relation to time. A dose of 0.03 mg of ^{131}I -AA/Kg was used to study the sinusoidal liver blood flow. The mean values of sinusoidal liver blood flow were found to be 107.2 ml/min or 1.00 ml/min/gm liver. The results of the corrected phagocytic index and the sinusoidal liver blood flow in the present studies were in the same order of magnitude of the results obtained from mouse, rat, guinea-pig, rabbit and man.

The effect of 10%, 15% and 20% ethyl palmitate on the liver blood flow and the phagocytic function of the R.E.S. were studied in 6, 3 and 2 monkeys, respectively, using 0.03 mg of $^{131}\text{I-AA/Kg}$ and 5.0 mg of $^{131}\text{I-AA/Kg}$ body weight. The results showed a lower liver blood flow in the 10% ethpalm group (50.4 ml/min or 0.55 ml/min/gm liver), 15% ethpalm group (87.8 ml/min or 0.85 ml/min/gm liver) and 20% ethpalm group (81.5 ml/min or 0.82 ml/min/gm liver) than that of the normal group. The mean values of the phagocytic activity (K), using 5.0 mg/Kg of $^{131}\text{I-AA}$, of the 10% ethpalm group (0.103 min^{-1}), 15% ethpalm group (0.073 min^{-1}) and 20% ethpalm group (0.101 min^{-1}) were also found to be higher than that of the normal group (0.056 min^{-1}).

These findings indicated that ethyl palmitate depressed the phagocytic function of the R.E.S. and the liver blood flow in these monkeys.

Microscopic examination also showed the degeneration changes and the fatty metamorphosis of the liver in the ethpalm monkeys, while the spleen showed no significantly pathological changes. This selective hepatic degeneration and necrosis induced by the ethyl palmitate in monkeys was similar to the results obtained in dogs but were different from those of mice, rats, guinea-pigs and rabbits.