

RESULTS

Fig. 1a and b. was obtained from group I (control group): in Fig.1a normal-sized bile canaliculi can be observed, and numerous mitochondria, rough endoplasmic reticula, and organelles can be noted in the cytoplasm of normal hepatic cells.

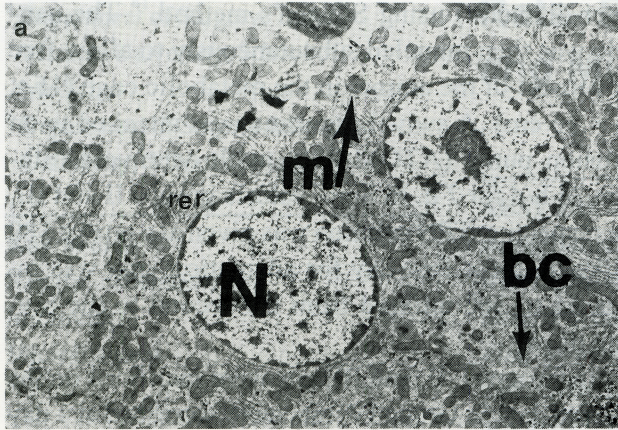


Fig. 1a. Group I (control group), normal liver parenchyma. The bile canaliculi (bc), mitochondria (m), nucleus (N) and rough endoplasmic reticulum (rer) can all be recognized to be of normal size and shape (x6000).

Fig. 1b is a magnified picture of the bile canaliculi showing lots of microvilli; the microfilaments are arranged in a vertical line within the microvilli.

Fig. 2a and b is from group II with total parenteral nutrition. As indicated by the arrow, Fig. 2a shows dilatation of the bile canaliculi and shortened microvilli with degeneration of their fine structure. Fig. 2b is a

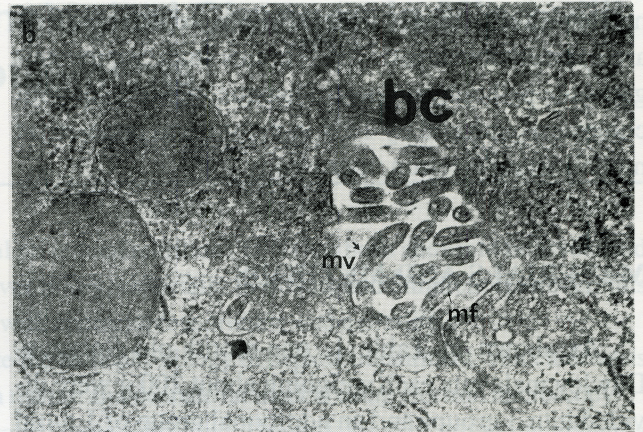


Fig. 1b. Group I (control group), magnification of the bile canaliculi (bc). Many microvilli (mv) can be recognized with microfilaments (mf) arranged in a vertical lining within them (x51,000).



Fig. 2a. Group II. The arrow shows the bile canaliculi (bc). Dilatation of the bile canaliculi with shortened microvilli (mv) can be noted. Degeneration of the internal structure of the microvilli is evident. N: nucleus, rer: rough endoplasmic reticulum (x25,500).

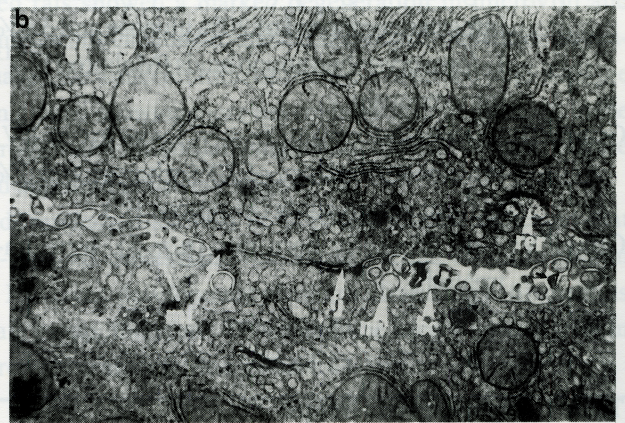


Fig. 2b. Group II, showing the continuous transection of the bile canaliculi (bc). Swollen microvilli (mv) and degeneration of the microfilament are shown. Crystal formation (crystallin) of bilirubin (black arrow) can be noted. Mitochondria are more swollen when compared to those of group I. mf: microfilament inside the bile canaliculi, Tj: tight junction, rer: swollen change of the rough endoplasmic reticulum (x9400).