

SUMMARY

An experimental study on TPN-induced hepatic impairment with cholestasis was performed.

Marked degeneration of microvilli and microfilaments within the bile canaliculi were noted in the total parenteral nutrition groups (groups II and III).

In group III, degeneration of microvilli and microfilaments was more severe than that in group II.

Within the bile canaliculi, microvilli and microfilaments serve very important functions in the bile secretory mechanism. Their degeneration induced by total parenteral nutrition is suggested to be one of the important factors causing hepatic impairment with cholestasis.

Development of microvilli and microfilaments within the bile canaliculi is incomplete in immature animals. For this reason, we suggest that hepatic impairment with cholestasis may be more easily induced by high-caloric total parenteral nutrition during this period.

The amount of L-form crystalline amino acids in total parenteral nutrition should be controlled very carefully.

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