

using Azan method, Van Gieson's method, etc., in 3 groups from regional aspect and in 5 grades from the view point of disease intensity. The grades of hepatic fibrosis of the portal area, the intralobular area, and the perilobular area were investigated respectively.

As a result, it was found that the fibrotic change in the intralobular and/or the perilobular area might be a predominant factor in producing fibrotic echo. However, fibrotic echo could also be developed by the initial fibrotic change in the portal area alone. All cases with the liver cirrhosis of grades 4 and 5 showed cirrhotic echo, whereas the cases with the liver fibrosis of grades 2 and 3 revealed either the cirrhotic echo or the fibrotic echo. The latter phenomenon was examined by the additional staining of acid mucopolysaccharides and the silver impregnation method, and only in significant conclusions were obtained.

The relationship between the laparoscopic finding of the liver surface and the direct ultrasonography by using laparoscopic transducer (5 MC) was studied and a significant difference of the echogram was found among the various types of granular surfaces of the liver.

126. THE DESTRUCTION OF BILIARY CALCULI BY INTENSE ULTRASONIC IRRADIATION

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In the previous paper, we reported on the destruction of removed biliary calculi by intense ultrasonic irradiation using contact method and in this paper we will report the destruction of calculi using immersed irradiation.

Pure pigment, pigment calcium and pure cholesterin calculi were selected and they were immersed into the distilled water or 5% sodium hexametaphosphate and irradiated by intense ultrasound, which frequency was 20 to 1,000 kilocycles per second and electric output was 100 to 200 watts.

The effects were studied on the change of the surface or the decrease of weight of calculi which were irradiated ultrasound and on the other hand the colour or turbidity of the fluid in which calculi were immersed.

Pure pigment calculi could be more easily destroyed than pigment calcium one, however pure cholesterin calculi seemed to be hardly destroyed.

It was investigated by the stereo-microscopy that the destruction degree was due to the structural problem of gallstone.

This experiment is not so capable as yet of practical use in the disruption of biliary calculi that the further studies will be expected.

The results of this experiments seems to show the feature application of ultrasonic method to the clinical treatment of biliary calculi.

127. AN EVALUATED RESULT OF BENIGN BILIARY TRACT SURGERY

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408 cases of non-malignant disease exceeding more than six months following biliary tract surgery have been reviewed by our institution, and 29 cases (7.1%) of various sequelae are found among them. No significant difference of the incidence of post-cholecystectomy syndrome was demonstrated between 154 cases of cholecystolithiasis with functioning gallbladder and 150 cases of cholecystolithiasis with non-functioning gallbladder.

The good result was obtained by cholecystectomy for 8 cases of cystic duct syndrome. Among 366 cases of cholelithiasis, the result of 62 cases of choledocholithiasis was inferior to those cases of cholecystolithiasis, furthermore, the comparative study of chemical composition of