

vious perineural invasion (Fig. 4), and lymphatic emboli (Fig. 5) were noticed. The adjacent liver parenchyma revealed centrozonal coagulative necrosis and fibrosis, suggesting irradiation effects. Distant metastases of the carcinoma to the bilateral lungs, bilateral pleura, hilum of spleen, body of pancreas, small and large intestines, omentum, mesentery, and rectus abdominis muscle were found. Lymph nodes in the para-aortic region, mesentery, hilum of spleen, hilum of lungs, paratracheal area, and bilateral neck revealed metastatic adenocarcinoma.

In addition, fat embolism of bilateral lungs was seen. Hypertrophy of the left ventricle of the heart (2 cm in thickness) was noted. Also found was sclerosing

calcified valvulitis of the mitral valve and aortic valve. The aorta and the bilateral pulmonary arteries showed atherosclerosis with calcified and fibrotic atheroma plaques. A villous adenoma measuring $1.5 \times 0.5 \times 0.5$ cm was noted near the previous anastomotic site of the rectum. No evidence of recurrent tumor near the anastomotic site of the rectosigmoid colon was noted. Two subserosal leiomyomas measuring $2 \times 1.5 \times 0.4$ cm and $1.5 \times 1 \times 0.5$ cm were noted in the high body of the stomach and the esophagocardiac junction, respectively. Multiple simple cysts measuring up to 1.5 cm in diameter were noted over the bilateral kidneys. The bilateral thyroid glands revealed mild nodular goiter. An accessory spleen measuring 0.7 cm in diameter was found.

In summary, this is a case of terminal stage of hilar-type cholangiocarcinoma status post biliary stent insertion and radiotherapy. At autopsy, the cholangiocarcinoma extended extrahepatically to the common bile duct, hepatoduodenal ligament, and had directly invaded the diaphragm, stomach, and duodenum. Disseminated metastases of the peritoneum, intestines, mesentery, spleen, pancreas, lungs, pleura, and general lymph nodes were evident. Eventually sepsis developed. The direct cause of death is thought to be multiple organ failure.

Malignant tumors of the extrahepatic and intrahepatic bile ducts are less common than those of hepatocytes and have no direct relationship with cirrhosis. Some cases have arisen within congenitally dilated intrahepatic ducts (Caroli's disease) on the basis of congenital hepatic fibrosis, in patients with parasitic infes-

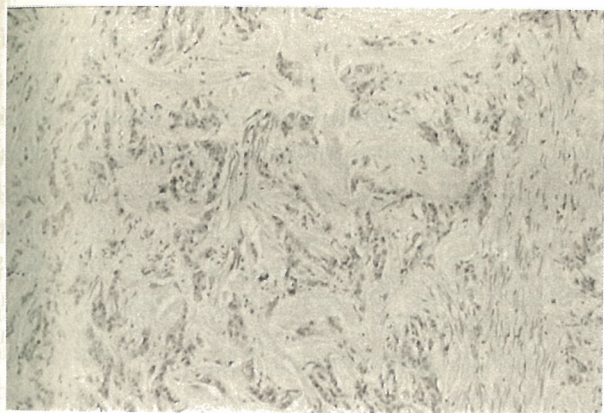


Fig. 3. Moderately differentiated cholangiocarcinoma growing in a tubuloglandular pattern with nests in the markedly desmoplastic stroma. Obvious perineural invasion, and lymphatics and vascular emboli were noticed (H&E 100X).

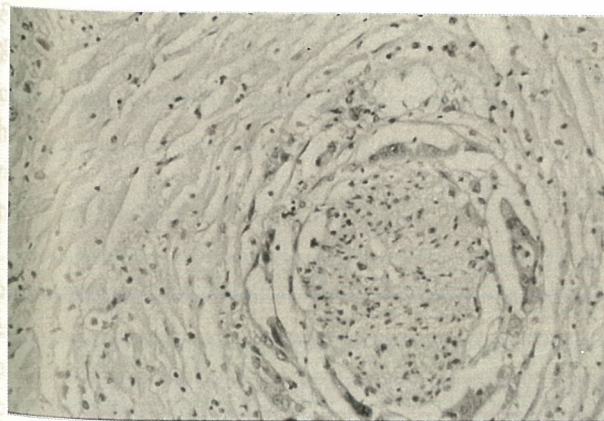


Fig. 4. Perineural invasion of the cholangiocarcinoma (H&E 200X).

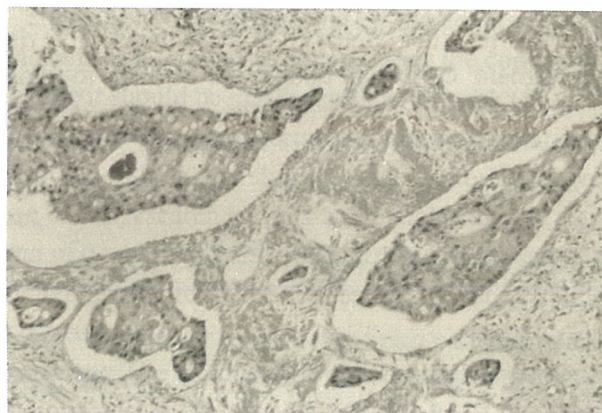


Fig. 5. Lymphatic emboli of the cholangiocarcinoma (H&E 100X).