Malignant neoplasms occurring in the biliary tract and pancreas remain a therapeutic challenge. The mechanism of carcinogenesis as well as the growth and spread of these tumors is still poorly understood, making the development of rational treatment strategies difficult. In order to improve the clinical results achieved by surgical or other medical treatment of such malignant tumors, the establishment of an experimental animal model is critical.

For this purpose, attempts were made to induce carcinoma experimentally in the biliary tree and finally an animal model using the hamster was established in 1994 at our laboratory. Because the tumor in this model mimicked the characteristics of human tumors, a series of experimental investigations were conducted to clarify the pathological characteristics of biliary carcinoma, the genetic alterations during biliary carcinogenesis, and the relationship between biliary inflammation and carcinogenesis. The chemopreventive effects on the occurrence of biliary carcinoma were also successfully examined. In addition, in vitro studies led to the establishment of transplantable biliary cancer cell lines and biliary epithelial cell lines by utilizing the hamster model.

This monograph represents the collective efforts in hepato-biliary and pancreatic disease research over the past 20 years. I hope that this monograph will be a source of useful knowledge for basic researchers as well as for clinicians involved in the care of patients with hepato-biliary and pancreatic neoplasms.

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