

## Medicine beyond frontiers

PD4

The 42<sup>nd</sup> Annual Medical Congress

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### Clinical and Management of Cholangiocarcinoma

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Cholangiocarcinoma (CCA) constitutes the second most common primary liver cancer after hepatocellular carcinoma. It is particularly prevalent in those regions of the globe where the liver flukes *Clonorchis sinensis* (CS) and *Opisthorchis viverrini* (OV) are hyperendemic, such as China and the northeastern provinces of Thailand. Pathogenesis of CCA has been attributed to synergistic induction by regular ingestion of nitrosamine-containing food acting as initiating factors accompanied by chronic and repeated OV infections which promote malignant transformation of the inflamed tissue. Humans are infected with the flukes by ingesting raw or insufficiently cooked fish containing the infective metacercariae. Subsequent maturation of the flukes leads to chronic infection mainly in the intrahepatic segmental ducts and to a lesser extent in the extrahepatic bile ducts. The ensuing epithelial dysplasia can be considered to be a precancerous lesion which proceeds towards neoplastic transformation triggered by an accumulation of molecular abnormalities activating proto-oncogenes and simultaneously inactivating tumor suppressor genes, thereby abolishing apoptosis. Clinically, two types of CCA can be distinguished, the jaundice type encountered in the vast majority of patients, and the jaundice-free type, both of which are usually not associated with cirrhosis. diagnosis and tumor staging in endemic areas are mainly accomplished by ultrasonography. Due to the advanced stage of the disease at presentation, treatment modalities are usually limited to palliative care as the resectability rate is very low. The role of endoscopic management is in progress to solve the biliary obstruction and its role will develop to therapy as well. Other modality such as chemotherapy has not been shown to prolong survival in CCA patients. Hence, health education campaigns against eating raw or fermented salted fish along with mass treatment for liver fluke appear to be the preventive methods of choice in order to reduce the impact of CCA on public health in Thailand.