Pancreatic Cancer: To Screen or Not to Screen?

Biography

Dr Michael CHEUNG Ka-Shing is currently the Clinical Associate Professor at the Department of Medicine, the University of Hong Kong. He is also the honorary consultant at the University of Hong Kong-Shenzhen Hospital, and honorary associate consultant at Queen Mary Hospital. He graduated from the University of Hong Kong in 2008, and received his Fellowship in Gastroenterology and Hepatology in 2015. He obtained his Master of Public Health degree in 2016 and Doctor of Medicine degree in 2020.

Dr Cheung's research interests are gastrointestinal oncology (including gastric cancer, colorectal cancer, hepatobiliary cancer), *Helicobacter pylori* and gut microbiota. He has published more than 140 international peer-reviewed journal articles since 2016 (with an h-index of 37 and over 6400 cumulative citations), including first-authored articles in Gastroenterology, Gut, Liver Cancer, Diabetes Care and Journal of the National Cancer Institute. He was invited to deliver 60 presentations and lectures (including plenary oral sessions and state-of-art lecture) at international and local conferences and institutions. In addition, he has been invited to be the reviewer of international journals including Gastroenterology, Gut, eClinicalMedicine, Clinical Gastroenterology & Hepatology, and Alimentary Pharmacology & Therapeutics.

Dr Cheung has received 30 international and local awards including National Scholar Award of United European Gastroenterology Week in 2021, APDWF/JGHF Emerging Leader Lecture in 2023, APDWF/JGHF Young Investigator's Award of Asian Pacific Digestive Week in 2017,

Sir Patrick Manson Gold Medal for his Doctor of Medicine degree, and Professor Anthony Hedley Prize in Public Health for the highest place in Master of Public Health degree.

Abstract

Pancreatic cancer is the sixth leading cause of cancer-related mortality worldwide. The incidence of pancreatic cancer has been increasing, with pancreatic cancer cases and deaths being projected to increase by 77.7% and 79.9% from 2018 to 2040, respectively. It is expected that pancreatic cancer may soon become the second leading cause of cancer death in the West. Pancreatic cancer has poor prognosis with 5-year survival rate of only 9%, due to a delay in early diagnosis, with 85% being unresectable. Pancreatic ductal adenocarcinomas (PDACs) account for approximately 90% of PC cases. The neoplastic precursor lesions of PC include pancreatic intraepithelial neoplasia, intraductal papillary mucinous neoplasms (IPMN) and mucinous cystic neoplasms (MCN). Risk factors of PDAC include pancreatitis (both acute and chronic), lifestyle factors (smoking and heavy alcohol consumption), obesity, diabetes mellitus (in particular, new-onset diabetes [NOD]), cystic neoplasms (IPMN and MCN), family history of PC, and certain pathogenic germline variants (PGVs). Screening for PC in the general population is cost-effective due to the low lifetime risk. A lifetime risk > 5% or relative risk > 5 have been utilized to define high-risk individuals. Generally accepted surveillance indications include familial pancreatic cancer (FPC), certain genetic syndromes and cystic neoplasms (IPMN and MCN). For other individuals not fulfilling these indications, utilization of risk scoring models may help to identify individuals who are at particularly high risk of developing PDAC (e.g. END-PAC and THIN model in NOD patients). The preferred surveillance tests are endoscopic ultrasonography (EUS) and magnetic resonance imaging (MRI). Fasting blood glucose, haemoglobin A1c and CA 19-9 may serve as adjuncts to imaging. Other potential tools include genomic biomarkers, circulating tumor DNA (ctDNA), circRNA biomarkers, and proteomic markers, although they are not yet ready for routine clinical use.