Variation in precursor lesions of pancreatic cancer among high-risk groups.

Abstract:
Pancreatic ductal adenocarcinoma (PDAC) surveillance programs are currently offered to high-risk individuals aiming to detect precursor lesions or PDAC at an early stage. We assessed differences in frequency and behavior of precursor lesions and PDAC between two high-risk groups. Individuals with a p16-Leiden germline mutation (N = 116; median age 54 years) and individuals from familial pancreatic cancer (FPC) families (N = 125; median age 47 years) were offered annual surveillance by MRI and magnetic resonance cholangiopancreatography (MRCP) with or without endoscopic ultrasound (EUS) for a median surveillance period of 34 months (0-127 months) or 36 months (0-110 months), respectively. Detailed information was collected on pancreatic cystic lesions detected on MRCP and precursor lesions in surgical specimens of patients who underwent pancreatic surgery. Cystic lesions were more common in the FPC cohort (42% vs. 16% in p16-Leiden cohort), whereas PDAC was more common in the p16-Leiden cohort (7% vs. 0.8% in FPC cohort). Intraductal papillary mucinous neoplasm (IPMN) was a common finding in surgical specimens of FPC-individuals, and was only found in two patients of the p16-Leiden cohort. In the p16-Leiden cohort, a
substantial proportion of cystic lesions showed growth or malignant transformation during follow-up, whereas in FPC individuals most cystic lesions remain stable. In p16-Leiden mutation carriers, cystic lesions have a higher malignant potential than in FPC-individuals. On the basis of these findings, a more intensive surveillance program may be considered in this high-risk group.