OBJECTIVES: Chronic pancreatitis (CP) and pancreatic adenocarcinoma (pCA) are associated with risk factors such as alcohol intake and tobacco smoking. Microsomal epoxide hydrolase (EPHX1) is a phase II detoxifying enzyme capable of tobacco-borne toxicant inactivation. We studied the role of the EPHX1 c.337T>C (p.Y113H) variant, which leads to altered enzyme activity, in pancreatic diseases. METHODS: We genotyped 2391 patients by melting curve analysis. We enrolled 367 patients with pCA, 341 patients with alcoholic CP (aCP), 431 patients with idiopathic CP or hereditary pancreatitis, 192 patients with acute pancreatitis, and 679 controls of German descent. We replicated data in 77 patients with aCP and 304 controls from The Netherlands. RESULTS: In German patients with aCP, Y113 was more common than in controls (allele frequencies, 0.73 vs 0.68; risk ratio, 1.21 [95% confidence interval, 1.05-1.39]). However, we could not confirm this association in the Dutch population (allele frequencies, 0.62 vs 0.68, P=not significant). In total, Y113 frequency was 0.71 in aCP and 0.68 in controls (P = not significant). Allele frequencies did not differ in the other disease groups (acute pancreatitis, 0.69; idiopathic CP or hereditary pancreatitis, 0.68; pCA, 0.68; and control, 0.68). CONCLUSIONS: The EPHX1 Y113H variant is not...
associated with pancreatic diseases indicating that EPHX1 does not play a significant role in the initiation of pancreatic inflammation or cancer.