

Opium use increases the chance of pancreas cancer in a large population-based study

Pancreas cancer is a common cancer with few treatment options and as a result is associated with considerably reduced chances of survival for the patients. Several factors such as obesity, diabetes, and smoking (including smokeless and other non-tobacco cigarettes) could increase the risk of developing pancreas cancer. Opium is a commonly used substance for recreational and medical purposes in developing countries and is becoming more common in Western countries. However, unlike cigarette smoking, opium consumption has been less studied as a potentially cancer-predisposing risk factor. We have previously shown that opium consumption was associated with higher gastrointestinal cancer deaths as well as higher risk of cancers of the gastrointestinal tract (esophagus and stomach), respiratory tract (larynx and lung) and urinary tract (bladder). However, it was not known whether opium could also increase the risk of pancreas cancer.

We examined the association between opium consumption and pancreas cancer incidence in a large-scale prospective cohort of the general population in Northeast of Iran (n=50,045). We collected data on ethnicity, occupational history, past medical history, family history of cancer, cigarette smoking, and opium and alcohol consumption. Data were collected on the amount of use; duration and frequency of consumption; and routes of administration for opium. We then determined the cumulative use of opium over time. The participants were annually contacted and incidents of hospitalisation and major diseases including pancreas cancer were identified using verbal autopsy.

During a median follow-up of 7.4 years (353,920 person-years), 54 cases of pancreas cancer were detected. Pancreas cancer patients had higher rate of ever use as well as higher cumulative amount of opium. High opium use was strongly associated with pancreas cancer even after taking into account other important risk factors such as age, sex, alcohol use, and cigarette smoking. Our study confirmed that opium is a risk factor for pancreas cancer. However, we did not examine the mechanism by which opium could cause pancreas cancer. Opium acted together with cigarette smoking to increase the risk of developing pancreas cancer. We found that cigarette smoking or opium consumption alone were not associated with risk of pancreas cancer. However combined cigarette smoking and high dose opium use doubled the risk of pancreas in high dose opium use in non-smokers. Although we did not study the impact of opium in former smokers, that opium consumption would not be associated with higher risk of pancreas cancer in former smokers who quit more than five years.

In conclusion, our results showed a positive association between opium consumption and risk of pancreas cancer. This association was dependent on the amount of consumption and cigarette smoking. Based on results of this study and several other studies of opium use and cancer, opium is now suggested to be an emerging cancer risk factor.

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Publication

[Opium Use and Risk of Pancreatic Cancer: A Prospective Cohort Study.](#)

Moossavi S, Mohamadnejad M, Pourshams A, Poustchi H, Islami F, Sharafkhah M, Mirminachi B, Nasser-Moghaddam S, Semnani S, Shakeri R, Etemadi A, Merat S, Khoshnia M, Dawsey SM, Pharoah PD, Brennan P, Abnet CC, Boffetta P, Kamangar F, Malekzadeh R.

Cancer Epidemiol Biomarkers Prev. 2018 Mar