The impact of smoking relapse on the outcome after lung transplantation

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Lung transplantation (LTx) is a treatment for end-stage lung diseases. Smoking free period of 6 months is required to be listed for LTx. We however reported that 17% of former smokers resume smoking after LTx. The current aim is to re-evaluate the prevalence of post transplant smoking resumption and the impact on outcome after LTx with as main parameters chronic rejection, solid tissue cancer. All 335 LTx recipients currently in follow-up in our center were included and evaluated for past and current smoking habits by a questionnaire and an eCO measurement with an electrochemical (Bedfont EC50-piCO-V Smokerlyzer) sensor (eCO >10 ppm was considered positive). The association between smoking and solid tissue cancer was tested using a contingency table (GraphPad prism 4.0). 213 patients (63.6%) smoked before LTx, of which 144 had COPD (43%). 35 patients (11%) reported smoking post-LTx, of which 32 were transplanted for COPD (91%), 14 (4.2%) were current smokers. eCO was elevated in 23 patients of whom only 10 patients admit that they smoke. Second-hand smoking was reported in 33% of the total population and 86% of the active smokers (78% had a smoking family member). In the 35 patients admitting smoking post-LTx, 10 patients suffered from chronic rejection (28% compared with 25% of the total population) and solid tissue cancer was reported in 6 patients (17% compared with 7% of the total population) (p=0.03), median follow-up time in both groups is comparable. 11% of the patients smoked after LTX, especially the COPD patients. There increased risk for the development of a solid tissue cancer. There is a discrepancy between the eCO and there questionnaire therefore combining with urinary cotinine seems to be necessary.