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LETTER TO THE EDITOR

Adverse effects of smoking in ulcerative colitis

Dear Sir,

In their recent article in the JCC, Calabrese et al.[1] concluded that resumption of low-dose smoking in ex-smokers with refractory ulcerative colitis (UC) may ameliorate signs and symptoms and smokers should be followed for smoking-associated risks including cardiovascular disorders and cancers; they discussed only anecdotal data suggesting that smoking may be associated with a decreased risk of colon carcinoma in UC. Although their considerations might be partially correct, they probably reflect only one side of the coin. A considerable body of evidence has linked smoking with UC-associated colorectal cancer.[2,3] For instance, experimental cigarette smoking induces inflammation-associated adenoma/adenocarcinoma formation in the mouse colon in a dose-dependent manner and this neoplasm development has been associated with inhibition of cellular apoptosis and increased angiogenesis; cigarette smoking significantly attenuates the apoptotic effect by inducing the anti-apoptotic protein Bcl-2, and vascular endothelial growth factor (VEGF) and angiogenesis in the colon were also increased by cigarette smoking in animals with colitis.[2] Moreover, several data suggest that there is a link between 5-lipoxygenase (5-LOX) and oncogenesis in humans and animals and that cigarette smoke can induce 5-LOX expression which plays an essential role in the activation of matrix metalloproteinase-2 and VEGF to induce angiogenic processes and promotion of inflammation-associated adenoma formation in mice. Furthermore, interactions of cigarette smoking with cyclooxygenase (COX)-2 and VEGF-mediated proliferation and angiogenesis on colitis and colitis-associated adenoma formation were observed, whereas COX-2 inhibitors could be implicated on cancer prevention in smokers with chronic colitis.[3] It is important to note that all the aforementioned factors have been implicated in gastrointestinal oncogenesis in humans.[4]

Besides, there is at least a 3–4-fold increased risk of thromboembolic complications in both UC and Crohn's disease patients compared to control patients; thromboembolic events are serious complications and an important cause of morbidity and mortality in patients with UC and Crohn's disease, and clinical risk factors can be found in half of the cases. In this regard, thrombophilia comprises several rare inherited abnormalities, often leading to thrombosis at a young age. The discovery of activated protein C resistance and the subsequent factor V Leiden gene polymorphism responsible for 90% of cases has led to a much broader search for other prothrombotic gene polymorphisms. Many of the polymorphisms interact with established cardiovascular risk factors, in particular smoking, to increase greatly the risk of a thrombotic episode. A principal mechanism of cardiovascular damage caused by cigarette smoking includes induction of a hypercoagulable state; smoking is a well-established risk factor for arterial disease, and also contributes to thromboembolism.

Our series reported the aforementioned thrombophilia-related factors both in patients with UC and Crohn's disease associated with history of cardiovascular disease and thromboembolism even at a young age.[5]

In view of the aforementioned data, we do not recommend smoking in patients with UC.

Conflict of interest

None.

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