Risk of colorectal neoplasia in patients with colonic Crohn's disease and concomitant primary sclerosing cholangitis

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IIntroduction

Several studies have shown that patients with inflammatory bowel disease (IBD) have an increased risk of developing colorectal cancer (CRC)[1-3]. Among IBD patients, greater duration of disease, extent of disease and severity of disease are all associated with higher risks of CRC.

Primary sclerosing cholangitis (PSC) is characterized by bile duct inflammation, fibrosis and stricturing that may lead to cirrhosis, hepatic failure and cholangiocarcinoma. A large proportion of PSC patients, have co-existing ulcerative colitis (UC), with a smaller proportion having Crohn's disease (CD) with colonic involvement. It is well documented that patient with UC and concomitant PSC have a significant higher risk of developing CRC with an adjusted relative risk from 3.1 to 6.9 [4,5].

However, little is known whether PSC also increases the risk of developing CRC in patients with colonic CD. To address this issue, Braden et al. conducted a retrospective analysis on the occurrence of CRC or colorectal dysplasia in patients with colonic CD with and without PSC (n=149) , in patients with indeterminate colitis and PSC (n=11) and also in patients with UC with and without PSC (n=222).

What are the relevant findings?

A large proportion of patients with PSC and CD had macroscopic pancolitis (82%). A similar finding was also observed in PSC and UC (89%) or indeterminate colitis patients (73%) as well as CD (90%) and UC (75%) patients without PSC. After a median follow-up of 11 years the cumulative incidence rate of developing nonadematous-like dysplasia or CRC was 7.5% (9/120) in patients with PSC and UC and 2.9% (3/102) among patients with UC alone. The odds ratio for PSC as a risk factor for developing nonadematous-like dysplasia or CRC was 2.7 (95% CI, 0.7-10.1) in UC.

In contrast, in the colonic CD patients with PSC no CRC case was observed and only one case (1/35) had an adenomatous polyp (tubular adenoma) with low grade dysplasia after a median follow up of 10 years. In patients with CD alone 3/114 subjects had dysplasia or cancer. The odds ratio for PSC as a risk factor for developing nonadematous-like dysplasia or CRC in colonic CD was 1.64 (95% CI, 014-18.7).

Nonadematous-like dysplastic lesions and CRC had a trend to occur more frequently in patients with UC and PSC (9/120) than in patients with CD and PSC (0/35; p = 0.07). It has also been observed that the majority of CRC were located predominantly on the left side of the colon (8/13 cases). PSC-related mortality showed a trend to occur more frequently in patients with UC (33%) than CD (17%; p=0.33).

Why is this study relevant and imporant?

The presented manuscript clearly shows that there is no increased risk of colorectal neoplasia in patients with PSC and colonic CD compared to colonic CD only. This is in contrast to the findings in patients with PSC and UC. The etiopathogenesis of the increased risk of CRC in patients with UC and PSC is unknown. However, bile acids are thought to play an important role as CRC in UC with concomitant PSC occurs predominantly in the right colon [6]. In addition, the use of ursodeoxycholic acid has been shown to be an effective chemo protective agent for the CRC in patients with UC and PSC[7]. Interestingly, in this cohort the majority of patients with PSC were treated with ursodeoxycholic acid but the CRC was observed predominantly in the left-sided colon.

This finding also raises the issue for the need or the frequency of the surveillance colonoscopy or flexible sigmoidoscopy among colonic CD patients with PSC since only one out of thirty five patients developed dysplastic tubular adenoma with low grade dysplasia during a follow-up of 10 years. This is in contrast to Rasmussen et al who reported two CRC cases in nine colonic CD patients with PSC during a follow up of 15 years [8].

All in all, this study has demonstrated that patients with colonic CD and concomitant PSC have no increased risk of developing colorectal neoplasia, which is in contrast to patients with UC and PSC. However, further prospective studies that include the assessment of classical risk factors associated with CRC as well as medications used such as mesalamine, immunosuppression and biologics in patients with PSC are needed to confirm or refute their findings.

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