



# Are the risks of colorectal cancer and biliary cancer really increased if patients with ulcerative colitis have primary sclerosing cholangitis?

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**Article:** Risks of colorectal cancer and biliary cancer according to accompanied primary sclerosing cholangitis in Korean patients with ulcerative colitis: a nationwide population-based study (**Intest Res 2023;21:252-265**)

Ulcerative colitis (UC), a chronic and inflammatory disease, mainly affects the colon, rarely accompanied by primary sclerosing cholangitis (PSC).<sup>1</sup> PSC is a chronic cholestatic disease of liver in which bile ducts are progressively destroyed by repeated inflammation and fibrosis leading to liver cirrhosis.<sup>2</sup> Previous studies have reported an increased risk of colorectal cancer (CRC) in patients with UC, and a further increased risk has been reported in patients with UC and PSC.<sup>3</sup> In addition, the risk of cholangiocarcinoma in PSC patients is reported to be 1,560 times higher than in the general population, with a lifetime prevalence of 5% to 10%.<sup>4</sup> However, because the number of PSC and cholangiocarcinoma cases in UC patients is limited, reports on cholangiocarcinoma risk and follow-up recommendations are limited. The number of studies reporting PSC in patients with UC is limited, and even fewer studies have reported CRC in patients with UC and PSC. Therefore, it may have been limited to ascertaining whether the risk of CRC accompanying PSC is increased in UC patients.

Three questions can be raised about the risk of CRC or cholangiocarcinoma in patients with UC who have PSC. First, is

there a difference in the incidence of cholangiocarcinoma between cases with UC and no PSC and those with both UC and PSC? Second, is there a difference in the incidence of CRC when UC is accompanied by PSC versus not accompanied by PSC? Third, is there a difference in the incidence of UC, PSC, and cholangiocarcinoma between races or regions, such as Western and Eastern countries?

Considering the first question, a Swiss cohort study reported an increased risk of cholangiocarcinoma in patients with inflammatory bowel disease.<sup>5</sup> Another case-control single-center study in Sweden reported an increased risk of cholangiocarcinoma in UC patients with PSC compared to the risk in UC patients without PSC.<sup>6</sup> In the present issue of *Intestinal Research*, Oh et al.,<sup>7</sup> the incidence of cholangiocarcinoma in UC patients was not higher than that in the general population. However, the incidence of biliary tract cancer in UC patients with PSC was more than 10-fold higher than that in UC patients without PSC or in the general population.<sup>7</sup> In a 15-year long-term study based on the national population using data from the National Health Insurance Corporation of Korea, the value of this study is high, proving that the incidence of cholangiocarcinoma is high in UC patients with PSC.

Considering the second question, previous studies have reported an increased risk of CRC in patients with UC. A meta-analysis by Eaden et al.<sup>8</sup> reported a 4- to 10-fold increase in the

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incidence of CRC in patients with UC compared to sporadic CRC. A further increased risk of CRC with PSC has been reported in patients with UC.<sup>6</sup> In the present issue of *Intestinal Research*, Oh et al.,<sup>7</sup> the cumulative incidence of CRC in patients with UC did not increase during the 14-year study period. A national population-based long-term study in Korea, the incidence of CRC was not higher in UC patients regardless of comorbid PSC compared to the general population.<sup>7</sup> Contrary to what is generally known that the risk of CRC is high in UC, the fact that there is no difference between the incidence of UC and CRC in Korea is significant to us. In Korea, where medical costs are low and access to medical services is easy, additional research is needed to determine whether the use of anti-inflammatory agents in an appropriate amount and for a sufficient period of time at an early stage did not result in a high incidence of CRC in UC.

Considering the third question, the prevalence of PSC in UC patients is reported to be 3%–8% in Western countries, whereas studies reporting prevalence in Asian countries are limited.<sup>9</sup> A national study in Japan included 197 PSC patients and reported a comorbid inflammatory bowel disease rate of 34%.<sup>10</sup> However, this study was limited because it could not present the prevalence of PSC in patients with UC and was conducted based on questionnaires provided to patients only in some hospitals in Japan.<sup>10</sup> As prevalence data are lacking in Asian countries, the results of this study may be useful.

This study is a 15-year long-term study based on the national population using data from the National Health Insurance Service of Korea, and seems to be a meaningful study result in the context of limited research and reporting on prevalence in Asian countries. In this study, the prevalence and cumulative incidence of CRC in UC patients with PSC were not higher than in UC patients without PSC. In addition, the prevalence and cumulative incidence of intrahepatic and extrahepatic cholangiocarcinoma and gallbladder cancer in UC patients with PSC were much higher than in UC patients without PSC. Therefore, more careful follow-up for cholangiocarcinoma and gallbladder cancer is needed when UC patients are accompanied by PSC. However, since the relationship between cholangiocarcinoma and PSC is known to physicians, additional research is needed to determine whether patients diagnosed with cholangiocarcinoma tend to add the diagnosis of PSC. Based on these results presented by the National Health Insurance Service data based on the national population of Korea, it seems that a prospective cohort study should be designed and studied in the future.

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### Conflict of Interest

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