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Ulcerative colitis associated colorectal cancer patients who receives colorectal surgery more likely receive blood transfusion and parental nutrition than Crohn's disease associated colorectal cancer patients - A propensity match study

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Introduction & Aim: The health care resource utilization of inflammatory bowel disease (IBD)-associated CRC patients who undergo colorectal surgery is unknown. Aim of this study was to compare the health care resource utilization, particularly the requirements of blood transfusion and parental nutrition, between ulcerative colitis (UC)-associated colorectal cancer (CRC) and CD-associated CRC who receives colorectal surgery.

Methods: This was a cross-sectional study using data from the Nationwide Inpatient Sample. UC- or Crohn's disease (CD)-related and CRC-related hospitalizations that underwent colorectal surgery between 2008 and 2012 were identified using appropriate ICD-9-CM codes. Exclusion criteria included: Age < 18 years; carrying discharge diagnosis of both ulcerative colitis and Crohn's disease (CD); CD with small intestine involvement only and; patients with missing data among the variables of interest. The health care resource utilization, including receiving blood product and parental nutrition was compared between UC-associated and CD-associated CRC patients who underwent colorectal surgery. Statistical analysis: A propensity match study was used to compare the outcomes between these two groups.

Results: There were a total of 197 pairs of patients in each UC-associated CRC and CD-associated CRC group and they matched well with respect to demographics, comorbidities, and institutional characteristics. We performed McNemar's tests for categorical variables in the matched sample. UC-associated CRC patients who receive colorectal surgery more likely receive blood transfusion ($p=0.0039$) and parental nutrition ($p=0.0203$) when compared with CD-associated CRC patients (Table 1). In addition, the CRC location is also different between UC- and CD-associated CRC ($p=0.0006$). More CD-associated CRC patients have right-sided colon lesions. CD-associated CRC patients more likely received partial colectomy than UC-associated CRC patients ($p<0.0001$) (Table 2).

Discussion: Inflammatory bowel disease (IBD) is associated with an increased risk of CRC. In contrast to sporadic CRC, IBD-associated CRC is frequently diagnosed at a more advanced stage and tumors are often multiple and poorly differentiated. Because UC and CD have different pathophysiology, subsequently, the phenotype and response to treatments including colorectal surgery between UC- and CD-associated CRC would be different. Our study is the first to examine the health care resource utilization in UC- and CD-associated CRC who receives colorectal surgery. Colorectal surgery in UC-associated CRC patients has been associated with higher health care resource utilization, including blood transfusion and parental nutrition, when compared with CD-associated CRC. In addition, the location and type of colorectal surgery are also different between these two groups. This study suggested that the surgical treatment for UC- and CD-associated CRC is different and therefore, care of IBD-associated CRC around colorectal surgery should be treated differently between UC and CD patients.

Biography

Cheng Zhang completed his MD at Hunan Medical University in China in 1995. After he completed his PhD in the field of Molecular Biology at University of Southern California in 2005, he completed his Medicine Residency training at Greater Baltimore Medical Center affiliated to the Johns Hopkins University in Baltimore in 2009 and Gastroenterology fellowship training at Beth Israel Deaconess Medical Center, Harvard Medical School, in Boston in 2012. Now, he is an Assistant Professor at Ohio State University in Columbus, Ohio. He is also a fellow of American College of Gastroenterology (ACG). His clinic interest is on Inflammatory Bowel Disease (IBD) and his research is focused on IBD outcome research and IBD translational research, including JAK-STAT signaling pathway in IBD. He has numbers of peer-peer reviewed publications, oral presentations in multiple international conferences, and many awards from gastroenterology associations.

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