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Obesity is associated with increased risk for arterial and venous thromboembolism among inflammatory bowel disease patients

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Introduction: There is an increasing prevalence of obesity worldwide, including recent studies indicating increasing prevalence of obesity among inflammatory bowel disease (IBD) patients. There are mixed data regarding the impact of obesity on IBD-related health outcomes. Obesity, defined by a body mass index of at least 30 kg/m², is associated with a pro-inflammatory state with elevated levels of C-reactive protein, tumor necrosis factor α and interleukin 6. IBD also predisposes individuals to thrombosis via up-regulation of prothrombotic factors and inhibition of fibrinolysis. Currently, there is paucity of knowledge regarding obesity and the risk of thrombosis among IBD patients. We aimed to determine the prevalence of arterial and venous thromboembolism (VTE) among obese and non-obese hospitalized IBD patients.

Methods: Discharges in the Nationwide Inpatient Sample (NIS) data set from 2012 were analyzed to identify Ulcerative colitis (UC) [ICD-9 556.0-556.9] and Crohn's disease (CD) [ICD-9, 555.0-555.2, 555.9] patients with obesity [ICD-9 278.00-278.01, V85.30-V85.45]. The incidence of arterial and venous thrombotic events and inpatient mortality were compared between obese and non-obese IBD patients using chi-square analysis.

Results: A total of 20,860 UC patients were identified and 9.19% were noted to be obese (n=1,918). Chi-square analysis demonstrated an increased prevalence of VTE that includes deep vein thrombosis and pulmonary embolism (11.73% vs. 8.23%, p<0.0001) and arterial thrombosis that consists of cerebral and coronary artery thrombosis, and myocardial infarction (12.15% vs. 10.43%, p=0.00215) among obese UC compared to non-obese UC patients. Similarly, 8.38% of identified CD patients were obese (3,151 out of 37,582 patients). There was an increased prevalence of VTE (11.87% vs. 7.66%, p<0.0001) and arterial thrombosis (9.39% vs. 7.48%, p=0.0002) among obese CD in comparison to non-obese CD patients. Lastly, there was no difference in mortality between hospitalized obese and non-obese patients with either UC (2.40% vs. 2.64%, p=0.5991) or CD (0.95% vs. 1.11%, p=0.4744).

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