Background: Inflammatory bowel disease (IBD) such as Crohn’s disease (CD) and ulcerative colitis (UC) is associated with decreased mineral density caused by chronic inflammation and corticosteroid use. However, the increase of fracture risk is unknown and differs according to studies.

Objectives: The aim of our study is to assess the risk of fracture and low bone mineral density (BMD) in patients with IBD compared to the general population.

Methods: A systematic search of literature up to 1st February 2017 was conducted using databases including: MEDLINE (via PUBMED), EMBASE, the Cochrane library and abstracts from the ACR, ASBMR and EULAR congresses from 2014 to 2016. Prospective and retrospective cohort studies were included if they reported the incidence of fractures and/or the measure of BMD by dual-energy X-ray absorptiometry (DEXA) expressed in g/cm2 in IBD patients in comparison with healthy controls. Meta-analysis was performed to assess odds-ratios (OR) for each studied group using the inverse variance approach to estimate pooled OR with their 95% confidence interval. Heterogeneity was assessed according to Cochran’s Q-test and I2 values. Calculations were made with the Cochrane RevMan 5.3 software. P-values less than 0.05 were considered as significant. Data was extracted by two independent investigators.

Results: The literature search identified 1165 articles and no congress abstracts, a manual search did not retrieve any articles. Finally, 25 studies met the inclusion criteria. 9 of them reported 2065 fracture events among 42,615 IBD patients and 4825 fracture events among 203,240 healthy controls. Global risk of fracture was calculated using a manual search did not retrieve any articles. Finally, 25 studies met the inclusion criteria. 9 of them reported 2065 fracture events among 42,615 IBD patients and 4825 fracture events among 203,240 healthy controls. Global risk of fracture was 1.52 to 0.48 (95% CI: 0.50; p=0.07), and at lumbar spine 0.08 to 1.01 (95% CI: 0.06; p=0.05, p<0.00001) and -1.01 (95% CI: -1.52 to -0.50; p=0.07), and at lumbar spine -0.06 (95% CI: -0.10 to -0.03, p=0.00033) and -0.51 (95% CI: -0.68 to -0.34; p<0.0001).

Conclusions: IBD patients have an increased risk of fractures, especially vertebral ones, suggesting the need for regular follow-up and preventing measures.

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