

# IS BARIATRIC SURGERY A RISK FACTOR FOR DE NOVO IBD DEVELOPMENT? A META-ANALYSIS

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## 1. Background and Aims

- The incidence of obesity has been steadily increasing across the globe and many are turning to bariatric surgery (BS) as an effective treatment.
- The surgeries, however, are associated with both morbidity and mortality.
- Recently, studies seem to suggest an association between the risk of developing de-novo inflammatory bowel disease (IBD) in patients who underwent BS.
- This meta-analysis reports on pooled the outcomes of de-novo IBD development in post-BS patients.

## 2. Methods

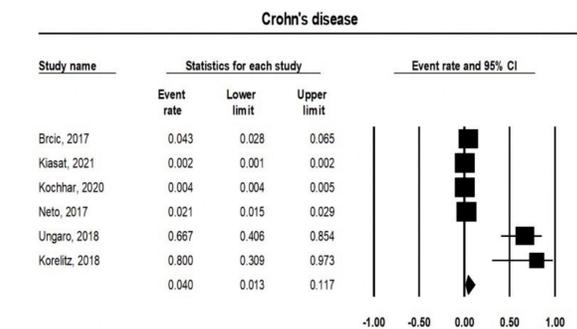
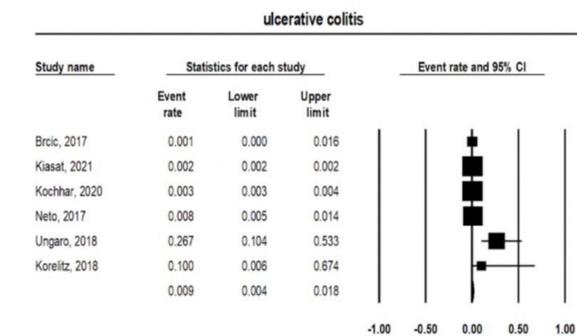
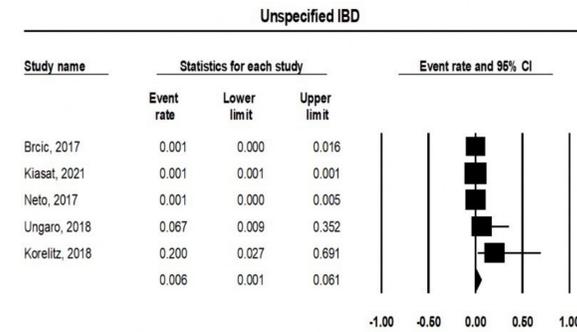
- A comprehensive search of several databases was conducted including PubMed, Embase, and ScienceDirect, to identify studies investigating de-novo IBD development in post-BS patients.
- Standard meta-analysis methods and random effects models were used to calculate the pooled odds-ratio (OR) and mean-difference (MD) with corresponding 95% confidence intervals (CI).
- I<sup>2</sup> statistics was used to assess the heterogeneity.

## 3. Results

- Six studies were included that reported on 142,406 patients that underwent BS.
- The average reported BMI at time of BS was greater than 45 and average reported age at time of BS was less than 40 years old.
- The pooled rate of de-novo Crohn's disease (CD), Ulcerative Colitis (UC), and unspecified IBD in patients undergoing BS was 4% (95% CI 1.3-11.7, I<sup>2</sup>=99%), 0.9% (95% CI 0.4-1.8, I<sup>2</sup>=95%), and 0.6% (85% CI 0.1-6.1, I<sup>2</sup>=91%) respectively.
- The majority of those who developed de-novo IBD were females (74%) and CD (52%) was the most common subtype.

## 4. Conclusion

- The results of our meta-analysis indicate an association between BS and de-novo IBD development, especially CD.
- It has been hypothesized that changes in the intestinal microbiome after bariatric surgery trigger immune responses that lead to the development of IBD in genetically susceptible individuals.
- However, some have suggested that these findings may be due to the association between IBD and obesity, by unknown mechanism. Additional research is needed to further validate our findings.



<b>De-novo IBD in patients after bariatric surgery</b>	
	Pooled rates (95% confidence interval, I <sup>2</sup> heterogeneity)
Ulcerative colitis	0.9% (0.4-1.8, 95%)
Crohn's disease	4% (1.3-11.7, 99%)
Unspecified IBD	0.6% (0.1-6.1, 91%)