Exploring Probiotic Use After Roux-en-Y Gastric Bypass

Gastric bypass (GB), the most effective treatment for morbid obesity, may fail to fully restore microbial balance in the gastrointestinal tract. Bacterial instability is characterized by loss of commensal bacteria, immunodeficiencies, and other factors which affect patients’ quality of life (QoL). Hypothesis: targeted probiotic treatment would improve metabolic function and gastrointestinal discomfort following gastric bypass by enhancing microbial restoration.

This review discusses:
1) Impacts of bariatric surgery on the microbiome
2) Potential benefits of probiotic treatment post-Roux-en-Y Gastric Bypass (RYGB)

Microbial Dysbiosis in Obesity

A healthy symbiotic relationship between the gastrointestinal microbiota and the host is important for regulation of gut motility, intestinal barrier homeostasis, nutrient absorption, vitamin synthesis, and fat distribution. It may also influence metabolism, physiology, and immune development and function. Certain disease states, like obesity, show marked phenotypic variance in microbial composition, which may exacerbate disease severity.

Probiotics: Beneficial Bacteria

Probiotics can:
1) Enhance innate immune responses
2) Regulate microbial homeostasis and functions
3) Influence feeding behaviors & weight gain
But clinical effects are largely strain dependent.

MATERIALS & METHODS

• A literature search of experimental studies relevant to the topic was performed in PubMed database with the MeSH terms: “probiotics,” “gastric bypass,” and “bariatric surgery,” along with conceivable synonyms.

• Further keywords and their synonyms relating to the “gastrointestinal microbiome” were then used to maximize the sensitivity of the search.

• Standard filters were applied to identify studies, and reference lists of the included studies were hand searched to identify additional papers.

• Both original research and review articles were included in this review to maximize understanding of knowledge to-date.

REFERENCES


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