

DEVELOPMENT OF AN ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA) FOR DETECTION OF BACTERIAL FLORA IN PATIENTS AFTER BARIATRIC SURGERY

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ABSTRACT : Obesity surgery is very effective relative to standard food therapies, enhancing health. Microorganisms bowel has been suggested to be an important factor in weight loss following surgery to treat obesity. Because the treatment of obesity causes a different rearrangement of the digestive system, it is likely to have various impacts on microorganisms in the gastrointestinal tract. Through the present study, we made a comparison between the effects of surgical operations on the treatment of obesity on microorganisms in the intestine of obese people. The parameters were recorded human and clinical measurements before and after 12 months of treatment. The research involved a sample made up of 19 patients. Nine of them followed medically based treatments (MT), depending on low-concentrations diets, three-fold weekly mild physical exercise, and a physician's 12-month monthly visit. Also, five patients were recruited with 5 trocar techniques as previously described to bypass RouxenY in the abdomen (RYGB) and 5 gastrectomies (SG). Five bacterial strains were obtained from the gastric flora of 10 patients before the bariatric surgery, while seven strains were isolated from the same patients after 12 months of surgery. all bacterial samples were morphologically and biochemically identified, followed by molecular fingerprinting identification via RAPD-PCR. Through the present study, we identified the effects of obesity treatment on intestinal microbes in humans. While no significant changes in weight, clinical signs, or microorganisms were observed from subjects on MT, the reduction of obesity processes caused significant changes in intestinal microbes, which are associated with some parameters of human measurements or metabolism. There was an increase in bacteria noted 12 months after both obesity medicines, while *Lachnobacterium sp.*, *Bifidobacterium bifidum* on the bacterial structure of patients participating in the study after one year of surgery for the treatment of obesity.

Key words : Bacterial flora, Bariatric surgery, Bifid-obacterium, ELISA, Lachnobacterium, obesity surgery.

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INTRODUCTION

The relationship between intestinal microorganisms that colonize the digestive system, intestinal microbes and the health of humans has been a focus on an exhaustive study over the last decade. Individuals who have undergone surgery to treat obesity to fight pathological obesity show many physiological and behavioral abnormalities before and after weight loss by surgery (Guyton *et al*, 2017). The accumulated evidence highlights the effect of intestinal microorganisms on these traits, indicating the role of this complex microbial community in weight loss and maintaining weight loss in obese patients (Komaroff, 2017).

Microbiome is defined as the genetic group of

microbes living in a specific place and their relationship to the environment. It is estimated that there are about 1,014 microorganisms in the human body, more than seventy percent of them in the colon, and more than 35,000 bacterial strains in the gastrointestinal tract. Microorganisms are affected by many factors such as type of birth, time of breastfeeding, transition to supplementary feeding, diet and use of antibiotics from birth to death. The intestinal microorganisms are composed mainly of anaerobic bacteria that share bacteria and fixed traits. Physiological, metabolic, immunological and neurological functions in the body (Karbaschian *et al*, 2018). It has been reported that human intestinal microbes consist of more than 1000 species. They can be classified