10.2 Abstract

The growing problem of obesity pandemic and co-existing diseases in the global population, not only in the healthcare, but also social and economic realms, turned modern medicine's attention to the search for links between these illnesses, which led to the conclusion that obesity is a multifactorial, complex and difficult to treat disease that requires the development of a multidisciplinary therapeutic approach. The discovery of the relationship existing between obesity and the most widespread among the world's population, chronic diseases such as hypertension, diabetes, dyslipidemia and even cancers or cardiovascular diseases, which until now are the most common causes of morbidity and mortality in the world, led to the definition of the metabolic syndrome, which was to constitute a starting point for the development of effective methods for the prevention and treatment of all these diseases. Although at the present time the use of the metabolic syndrome concept is a debated issue, the metabolic and health consequences of obesity have been well understood, and the scientific recognition of the etiopathogenetic basis that links them together has enabled the development of therapeutic methods that break the vicious cycle of obesity-related disorders. At present, it is the bariatric and metabolic surgery that is the only one of all methods for obesity, that gives the possibility of sustained and effective treatment of obesity, related metabolic disorders and co-morbidities. Of all bariatric surgery operations, laparoscopic sleeve gastrectomy is distinguished by its simplicity and safety, while maintaining a good profile of bariatric and metabolic efficiency. The LSG procedure is one of the newer methods of surgical treatment of obesity, therefore, the scientific database is not as well established than in the case of other operations, therefore studies analyzing its effectiveness are a valuable contribution to the development of bariatric sciences.

The aim of this dissertation was to assess the efficacy of laparoscopic sleeve gastrectomy in the treatment of obesity, diseases included in the metabolic syndrome and other diseases related to obesity. In order to achieve this goal, a 12-month observation of 97 patients undergoing LSG surgery was performed, during which the weight loss obtained by analyzing the changes in the most popular bariatric parameters was analyzed among the examined patients, the frequency of partial and complete remissions of hypertension, type 2 diabetes and other diseases diagnosed in the study group during the follow-up was assessed, as well as analysis of changes in carbohydrate and lipid metabolism based on the most important biochemical parameters used to assess them. In addition, an assessment was made towards the development of vitamin and micronutrient deficiencies that may result from the

surgical procedure, along with the changes occurring in the concentrations of other important biochemical markers.

The results of the analysis carried out on the above clinical material allowed to conclude that laparoscopic sleeve gastrectomy is an effective method for treating obesity, causing rapid and effective weight loss, gives beneficial clinical effects in treatment of diseases included in the metabolic syndrome, aligns carbohydrate metabolism, improves the lipid profile in patients, improves and treats some diseases related to obesity, does not cause the development of vitamins and microelements deficiencies and also causes the desirable changes in the biochemical markers of liver function and inflammation.

Summarizing, it can be stated that laparoscopic sleeve gastrectomy is an effective therapeutic solution to the problem of obesity, related metabolic disorders and comorbidities and it occupies its rightful place among bariatric procedures as an operation with a very well-balanced safety and efficacy profile.