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BARIATRIC/METABOLIC SURGERY I.

5. Overview of new trends in bariatric and metabolic surgery

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Since early eighties, worldwide obesity prevalence has more than doubled. Today, in most countries across the continents, more people die from obesity than from being undernourished. Metabolic/bariatric surgery continues to be the most successful treatment for obesity, being responsible for substantial and sustained weight loss, resolution and/or significant improvement of comorbidities, and reductions in health care services utilization. Metabolic mechanistic studies conducted in animals and humans of the currently standardized surgical interventions have demonstrated the important role the gut plays in glucose homeostasis and appetite control. However, only a small percentage of potentially surgical candidates undergo established procedures. Patients and referring physicians alike often consider the established procedures too dramatic. Less invasive, potentially reversible procedures are needed to meet the needs of the growing T2DM and obese population. There are several emerging procedures and new trends which may fit into this rapidly growing concept of less invasive procedures. Among such procedures may be positioned i.e. so called partial jejunal diversion (PJD), performed laparoscopically, and/or endoluminally, involving a single anastomosis, a side to side jejuno-jejunostomy which offers promise as a less invasive, reversible procedure, namely for the management of T2DM and warrants further study. Endoluminal procedures, specifically those mimicking laparoscopic operations however performed with the means of gastroscopic and colonoscopic devices such as endoluminal gastric plication are another, low invasive, potentially reversible possibility. On the even less invasive end, there are available or at least emerging further treatment options, such as intragastric baloons, endoluminal barriers, gastric electrostimulation or so called transpyloric shuttle. Regardless the promissing trends in this rapidly evolvingfield, mutlidisciplinary approach to patients, careful preoperative selection, standardized and consistent follow-up are the key contributors to long-term success.

6. Predictors of weight loss and weight regain after obesity surgery

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Bariatric surgery in obese patients is effective in producing sustainable weight loss and improvement in obesity-related co-morbidities. However, weight regain can be seen in a substantial number of patients following bariatric surgery. Dietary non-compliance, mental health disorders, physical inactivity, hormonal/metabolic abnormalities and surgery related issues are among the underlying etiologies contributing to weight recidivism. Current literature is comprised of numerous clinical trials studying predictors of weight outcomes after bariatric surgery. Binge eating disorder and loss of control of eating are among those that result in less weight loss and more weight regain. DNA sequence variations in eleven obesity candidate genes were tested to display the association with weight loss and weight regain in the Swedish Obese Subjects bariatric surgery cases. The analyses revealed that the single nucleotide polymorphism (SNP) in the Fat mass and Obesity associated (FTO) gene was associated with maximum weight loss after banding surgery. There was no evidence that obesity risk SNPs in FTO or other obesity candidate genes were associated with weight loss or weight regain over six years of follow up. In other studies night eating, depression, age and initial body mass index of the patient, surgical procedure, time since surgery, stoma diameter, nutritional counseling level and physical inactivity were shown to be the predictors of weight regain after Roux-en-Y gastric by-pass. A systemic review of studies assessing changes in leptin, ghrelin and insulin sensitivity during weight loss and testing the relationship between such changes and weight regain has concluded that these changes taken alone are not sufficient to predict weight regain following weight loss. Whatever predictors have been proposed so far for weight loss, maintenance and weight regain, patients' adherence to treatment and follow up programs remains to be essential.

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7. Surgery for Diabetes and DSS-II guidelines

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Bariatric surgery is since half of the last century connected with surgical intervention for substantial weight reduction. Other medical benefits were supposed as effect of weight reduction. The introduction of laparoscopic surgery accelerated increase the numbers of surgical interventions for severe obesity worldwide. Only mild attention was dedicated to real metabolic consequences of surgical procedures. In 1978 Buchwald and Varco published nice book devoted to the effect of partial ileal bypass on triglycerides, and twenty years after Buchwald published the long-term results regarding levels of cholesterol. In 1995 Pories published results of surgical procedure on diabetes mellitus type 2 (DMT2). At the beginning of 3rd millenium Rubino and others focused attention of bariatric community on metabolic effect of surgery. Introduction of the fore gut and hind gut theory led many researchers to work hard on the topic of gut hormones and theirs interaction. The name "metabolic surgery" became more and more popular. There have been published very interesting studies regarding this topic. The positive effect of surgical treatment on comorbidities, especially on DMT2 became more and more apparent. The surgical community relatively early accepted this knowledge. But there was long way to go, to be accepted in diabetologic community and by government authorities, as well. An important step was the first Diabetes surgery summit on 2009. A lot of hard work of many researchers was completed in Diabetes surgery summit II. in 2015. The results of the consensus of 48 experts (more than 75 % non-surgical) titled: "Metaboilic surgery in the treatment algorithm for type 2 diabetes: A joint statement by international diabetes organisations" were published in 2016. Very soon this consensus was accepted in more than 50 professional communities worldwide. The Slovakian Diabetes Society and his Obesitology section has sign this document recently. As a result of scientifical power of the consensus, American Diabetes Association introduced in 2017 surgery as integral part of DMT2 algorithm. A lot of energy must be spent in the future to share this knowledge to diabetologist and others communities, as well. There is the need to persuade also government authorities and health care payers to accept new indications for surgery. I hope that our effort will be successful not only in Slovakia.

8. Bariatric surgery in Poland. What's new?

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The population of Poland is 38.5 million. According to recent epidemiological studies performed in Poland, every fifth adult suffers from obesity. Among them, 300,000 are morbidly obese and more than a million patients meet the criteria for bariatric surgery due to complications related to obesity stage 2. According to the data presented by the International Diabetes Federation, diabetes was diagnosed among 2 million adults in Poland. Most of these cases (90 %) are type 2 diabetes. The first bariatric procedures were performed in Poland during the 70s in Poznan, Bytom, Warsaw, Gdansk and Lublin. The laparoscopic technique was introduced into bariatric surgery at the end of the 90s, when the first laparoscopic gastric banding and laparoscopic gastric bypass were performed in Zabrze. The Polish Association of Prevention and Treatment of Obesity has been a member of the International Federation of Obesity since 2001. The first conference in Poland dedicated to bariatric surgery was organized in 2002 and, since 2009, international conferences dedicated to metabolic and bariatric surgery have been organized every year in Poland. In 2003, the Bariatric Surgery Section (since 2009: the Metabolic and Bariatric Surgery Section) was founded in the Association of Polish Surgeons and a similar section was founded in 2009 in the Polish Association for the Study of Obesity. Unfortunately, for many years less than 1,500 patients with indications for bariatric and metabolic surgery underwent this type of treatment per year. Despite the fact that nowadays bariatric surgery is performed on a regular basis in 25 hospitals in Poland, and the number of bariatric surgical procedures doubled in 2015 and 2016, treating over 3,000 patients per year, still less than 1 % of patients are treated per year in accordance with indications. The Coalition against Obesity was founded in 2016 to look for new organizational solutions. The above coalition developed the "Polish Obesity Road Map" and has proposed its introduction into the system of health care in Poland. Simultaneously, at the beginning of 2017, in accordance with the evidence published in the HTA report dedicated to bariatric surgery and considering the condition of public health care in Poland, a new Diagnosis-Related Group: "Surgical Treatment of Obesity" was founded by the National Health Fund. We hope that the above solutions will help to treat, in the coming years, a larger group of morbidly obese patients in accordance with Evidence Based Medicine.