

Obesity Prevention and Treatments

The Role of Bariatric Surgery in the Management of Chronic Non-communicable Diseases

E Lo Menzo

Objective: To describe our experience in bariatric surgery procedures, in particular laparoscopic sleeve gastrectomy (LSG), and offer an overview of the metabolic benefits of bariatric surgery.

Methods: A retrospective review of a prospectively collected database was conducted on patients undergoing LSG. Data included anthropometrics, comorbid conditions, intraoperative complications, mean length of hospital stay (LOS), early (< 30 days) re-admission, early and late (> 30 days) post-operative complications, and percentage of excess weight loss.

Results: Of 1020 patients, the mean age was 38.4 (\pm 16.5) years, and 66.6% (n = 679) were female. The mean body mass index at first visit was 43.4 (\pm 5.8) kg/m². Co-morbidities included diabetes mellitus (89.4%), sleep apnoea (86.4%), hypertension (80.3%) and hyperlipidaemia (70%). At follow-up, 57% of the diabetic patients experienced significant improvement or remission. Mortality was 0%. Post-operative complications within 30 days of surgery included leaking (0.1%, n = 1), stricture (0.1%, n = 1), emesis (23%, n = 234), dehydration (19%, n = 194), prolonged ileus (18%, n = 183), and self-limited bleeding (3%, n = 30). The mean LOS was 3.4 \pm 2.1 days, with a 3.8% overall rate of early re-admissions. A total of 3.9% had long-term morbidity (n = 40), including stricture (0.49%, n = 5) and gastroesophageal reflux disease (6%, n = 61). The mean percentage of excess weight loss at three months, one, three, five and eight years was 72 \pm 16.8, 86 \pm 22.3, 63 \pm 19, 61 \pm 11 and 52 \pm 9.2, respectively.

Conclusion: Bariatric surgery remained a safe and effective remedy to morbid obesity. Among the different available options, LSG seemed to offer a good compromise of success and safety when compared to other well-established procedures and may result in a significant improvement of obesity-related co-morbidities.

Bariatric Surgery – The Bahamas experience

L Munroe

Background: Surgical potential for impacting weight loss was first noted as a side-effect or complication in the management of peptic ulcer and after small bowel resections resulting in short bowel syndrome. Reduced absorptive and reservoir capacities were directed against weight loss in 1971 and again in 1976. In The Bahamas, Professor Mitiku Belachew performed lap band prior to its approval by the FDA, SLS Conference, New Orleans 2002. The first case in 2009 experienced issues with anaesthesia, proper follow-up and monitoring, and the third-party payer questioning the criteria for the surgery.

Objective: To evaluate the outcomes of surgical interventions promoting weight loss.

Methods: A retrospective review of all patients who sought care for morbid obesity over the past 19 years was performed. From the local perspective, only morbidly obese patients with chronic non-communicable diseases were chosen. Microsoft Excel[®] software was used to manage the data.

Results: Twenty-two patients were identified. The preferred procedure was biliopancreatic diversion with duodenal switch (9), followed by sleeve gastrectomy (8). Of the 17 patients in this report, 14 were female and 3 were male. Their age ranged from 26 to 56 years, and the average age was 43.2 years. Two patients have died. Their initial weight ranged from 254 to 543 lbs, with an average of 359.3 lbs. The current average weight is 258 lbs (100 lbs lost). The initial body mass index (BMI) ranged from 45 to 74.4, with an average of 60.3. The current average BMI is 43.82 (a 27.3% reduction).

Conclusion: Overall, outcomes of bariatric surgery in The Bahamas had been positive. Some patients ACTIVELY adhered to the weight loss plan, and team approach was warranted to improve the likelihood of success.

Microfractured Fat as a Megavolume Filler for Buttocks Augmentation

G Neil, S Pierre

Background: The role of lipofilling within plastic and reconstructive surgery has been expanding since the 1990s. Ideal fillers would maintain volume while reducing fat cluster size, enriching the stromal vascular fraction and mesenchymal stem cells (MSCs) *via* well-known mechanisms. Using fats as a filler is scientifically supported. Suitable for small-volume fat grafting, the Lipogems[®] microfracture technique for obtaining stem cell-enriched fat addresses some of the limitations of conventional fat grafting which may lead to complications outlined above. Three case reports will be presented.

Case report: A 40-year-old female patient presenting with a history of a fall developed a large depression on her left buttock. The area of the defect was injected with 450 cc microfractured fluidized lipoaspirate, and 200 cc per side was used for augmentation. This is the first reported case of such microfractured fat being utilized for megavolume lipofilling of the buttocks. Additionally, an ethically approved quality of life questionnaire was administered before and after the surgery.

Results: Post-operative resolution of the depressed contour deformity was good. Regarding the deformity, the patient had expressed a severity score of 19/29. This decreased to 2/29 post-operatively. Based on this successful result, two additional cases were performed. Pre-operative severity scores of 11/29 and 10/29 were not reported after treatment.

Conclusion: Megavolume lipofilling utilizing microfractured stem cell-enriched fat can be used safely for large areas such as the buttocks. Regenerative properties of this autologous injectable and careful surgical technique may contribute to its reliability as a megavolume filler. Outcomes suggest that its use for purely cosmetic indications is also justified.

The Implementation and Utilization of a Live CME Management System in The Bahamas

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Background: As of 2015, the requirements for licensure with The Bahamas Medical Council (BMC) were updated to include a minimum of 20 annual Continuing Medical Education (CME) points. Although there were several CME events each year prior to this, the outcomes were not reported to BMC. This new initiative undertaken by BMC would dramatically increase the administrative burden of the CME office at the various institutions, thus prompting the need for an electronic automated system.

Objective: To implement and determine utilization patterns of a web-based CME management system in The Bahamas.

Methods: We conducted a Medline search as well as a Google search using the following search terms: continuing medical education (CME), tracking, web based, automatic certificate, virtual classroom, open source, learning management system (LMS), and automatic feedback. A platform was considered suitable if it was cost-effective, scalable, had communication tools built in, met the BMC CME administration criteria and had regional technical support expertise. Once deployed, the CME events managed by this platform for the year 2016 were evaluated.

Results: The cost and technical specifications of 10 systems were evaluated. Moodle was found to meet our requirements and was deployed online to the website “<https://sunshinelearner.com>”. Continuing medical education events in the following areas were managed: General CMEs, Obstetrics and Gynecology, Pediatrics, Emergency Medicine, Research Day, and Author and Reviewer Workshop. Overall participants generated a total of 989 certificates and were awarded 2529 CME points. The number of current site users is 581.

Conclusion: Moodle may be used as a cloud-based platform to reduce the administrative burden of managing CME events.

Non-urgent Patients’ Perception of the Acuity of their Presenting Complaints at the Accident and Emergency Department of the Princess Margaret Hospital

R Roper, C Nairn, M Frankson

Objective: This study was conducted to identify the reasons why non-urgent patients choose the Accident and Emergency Department (ED) for care and to determine if the managing physicians viewed their visits as valid.

Methods: This was a single-centre prospective study, with a cross-sectional design, conducted over a three-month period and in two parts. After being triaged, five to seven non-urgent patients were interviewed on two randomly selected shifts during weekdays. The patient questionnaire captured demographics, the perception of the urgency of their complaints, reasons for choosing the ED and the factors that influenced this choice. Without knowledge of the patients’ responses, physicians were asked to determine if the patients’ complaints warranted ED intervention or could have been equivalently managed at community clinics.

Results: Patients were predominantly adults (89.6%), Bahamians (90.2%), with a high school education (61.7%), employed (66.7%), and arrived at the ED *via* private means (75.3%). Most perceived their complaints as emergencies (80%) and that the community clinics would have referred them to the ED (33.2%). The physicians concluded that 60% (183) of these patients could have been treated at community clinics.

Conclusion: Most non-urgent patients perceived their presenting complaints as emergencies and rationalized their

choice of healthcare institution. This was primarily based on deficiencies identified in the public health system. This perception contradicted the opinion of the corresponding physicians. Improvement in primary care facilities and patient education are recommended.

***Helicobacter Pylori* Detection in Non-variceal Upper Gastrointestinal Bleeding in The Bahamas**

D Serville, M Cooper, M Frankson, D Dames

Background: Fifty per cent of the world's population is infected with *Helicobacter pylori*. Most patients infected are asymptomatic. However, a minority of patients develop peptic ulcer disease and, to a lesser degree, gastric cancer. Both complications carry significant morbidity and mortality. Few studies have reported the prevalence of *Helicobacter pylori* in non-variceal upper gastrointestinal bleeding (NVUGIB) in endemic areas.

Methods: A single-centre, observational cross-sectional pilot study was performed to determine the prevalence of *Helicobacter pylori* infection in patients presenting with NVUGIB at Princess Margaret Hospital. The study spanned a period of eight months (September 2016–May 2017). Patients meeting the selection criteria were consented and completed a questionnaire which addressed demographics, co-morbidities and the presence of potential risk factors associated with upper gastrointestinal bleeding. All eligible patients underwent an oesophagogastro-duodenoscopy (EGD). Multiple biopsies were performed in accordance with updated Sydney System. A rapid urease test (RUT) was performed on a single sample at the time of endoscopy. The remainder of the biopsies sampled was sent to the histology for analysis under haematoxylin and eosin staining.

Results: The study size was 13 patients. Among these, nine (69.2%) had a positive RUT (Pyloplus). Ten (76.9%) patients had histological changes consistent with *Helicobacter pylori* infection. Kappa for chronic gastric RUT versus histology was 0.806 ($p = 0.003$).

Conclusion: This trend indicated a high prevalence of *Helicobacter pylori* infection in patients that presented to Princess Margaret Hospital with NVUGIB. In addition, the RUT appeared to be comparable in sensitivity in confirming *Helicobacter pylori* detection versus histology.

Epidemiologic Profile of Cases of Tuberculosis from 2014 to 2016 at Princess Margaret Hospital, Nassau, The Bahamas

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Objective: The aim of this study was to determine the clinical epidemiological profile of patients diagnosed with tuberculosis (TB) from January 1, 2014 to December 31, 2016 in Nassau, The Bahamas.

Methods: We conducted a retrospective chart review on patients' medical records from the Medical Records Department and the admissions log book kept at the chest clinic of Princess Margaret Hospital (PMH). Included were all 189 cases of TB diagnosed at PMH. Patients' demographics, risk factors, signs and symptoms and diagnostic test information were collected. IBM SPSS Statistics application software was used for data analysis.

Results: The mean age of the 189 patients in this study was 37.96 (± 18.20) years. One hundred and six (56.1%) were male and 83 (43.9%) were female. One hundred and fifteen (60.8%) were Bahamian and 74 (39.2%) were foreign-born. The human immunodeficiency virus (HIV) status was documented for 182 (96.3%) of the patients. Of those patients, 109 (59.9%) were HIV-negative and 73 (40.1%) were HIV-positive. Eighteen (9.7%) were reported to have diabetes mellitus (DM), 35 (18.5%) were reported to smoke cigarettes, and 24 (12.2%) reported alcohol use. One hundred and eighty-two (96.3%) had pulmonary TB and seven (3.7%) of the patients had extra-pulmonary manifestations of TB. Acid-fast bacillus (AFB) culture results were reported for 183 patients. Of the 183 patients, 96 (52.5%) were positive for Mycobacterium tuberculosis. Three (3.1%) of the positive cultures were multidrug-resistant.

Conclusion: The TB profile by nationality reflected a higher proportion in non-Bahamian residents when compared to the national demographic. The human immunodeficiency virus was a major risk factor for TB but not DM.

The Complete Approach to Weight Management

L Cheskin

Obesity is arguably now the leading preventable medical cause of morbidity and mortality globally. We will discuss in detail the aetiology of this epidemic, with an eye to why its prevalence varies so greatly among different populations. Understanding the causes and perpetuating factors will illuminate the key factors in preventing and treating the problem of obesity. We will examine in detail the rationale for, and evidence of effectiveness of, various dietary and lifestyle treatments, as well as for pharmacotherapy, bariatric surgery, technology-based approaches, and novel treatments. Finally, practical guidance will be given for treating obesity in adult patients, based on the experience gleaned from treating thousands of patients at the Johns Hopkins Weight Management Center.

The Contribution of Plant-based Dietary Patterns to Health and Disease

C Heskey

Plant-based dietary patterns, including vegan and vegetarian diets, may help to prevent and, in some cases, manage

chronic diseases. There is evidence to suggest that plant-based diets may help to reduce the risk of overweight and obesity, heart disease, Type 2 diabetes and certain cancers. Benefits can be ascribed to nutrient-dense choices including diets rich in fruits, vegetables, legumes, whole grains, and nuts. These choices lead to a relatively high intake of vitamins, minerals, fibre and phytochemicals, which are important for health and disease prevention. Mechanisms that help to explain these benefits include the impact of vegan and vegetarian dietary patterns on gut microbiota, blood lipids, blood pressure, inflammation, insulin sensitivity, blood glucose, and cellular epigenetic changes. Such dietary patterns, however, can range substantially in quality and

variety. This variation in quality and variety helps to explain differences in research findings surrounding the adequacy and healthfulness of these diets. Nutrients of concern may include vitamins B-12 and D, calcium, iodine, iron, zinc, protein, and n-3 fatty acids, but those following appropriately and well-planned diets are unlikely to experience deficiencies. Appropriately defining healthy plant-based dietary patterns can help in elucidating the potential benefits. These definitions will also help in creating evidence-based guidelines for use in clinical practice and public health messages about appropriate eating patterns for the prevention and management of chronic diseases.