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THE NEW TECHNIQUES OF BREAST RESHAPING IN THE
MANAGEMENT OF BREAST PTOSIS POST BARIATRIC
SURGERY AND MASSIVE WEIGHT LOSS

Essay

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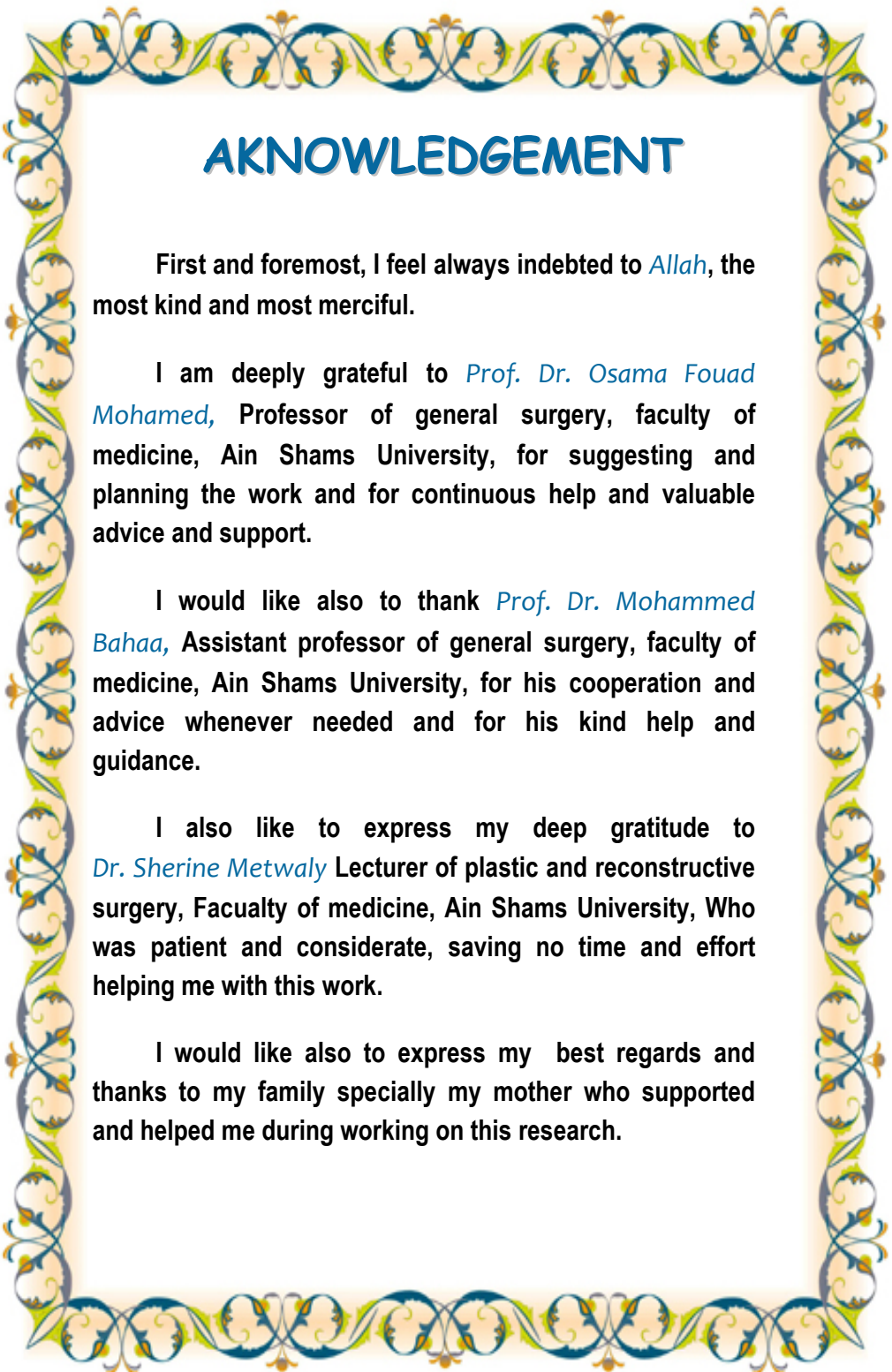
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LIST OF ABBREVIATIONS

BMI	: Body Mass Index
BS	: Bariatric surgery
IMF	: Infra mammary fold
ICAP	: Inter Costal Artery Perforator
LAGB	: Laparoscopic Adjustable Gastric Band
LICAP	: Lateral Inter Costal Artery Perforator
MWL	: Massive weight loss
NAC	: Nipple areola complex
NHLBI	: The National Heart, Lung, and Blood Institute
NIDDKD	: National Institute for Diabetes & Digestive and Kidney Diseases
RYGBP	: Roux-en-Y Gastric bypass
SFS	: Superficial Fascial System
VBG	: Vertical Banded Gastroplasty
WHR	: Waist Hip Ratio



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INTRODUCTION

Obesity is a growing problem worldwide, with a mean prevalence of approximately 20 to 30% in adults in Europe and the USA, while morbid obesity rates range from 4.7% to 6% in the adult population (**Sweeting 2007**). Although dietary and lifestyle modifications have traditionally been the mainstay of treatment for obesity, their lack of success at long term weight reduction and the paucity of effective pharmacologic agents led to a comprehensive evaluation of surgical management. Guidelines established recommend bariatric operation for morbidly obese patients, defined as those with a body mass index (BMI) = 40 or patients with a BMI = 35 who have associated comorbidities. (**Borud and Warren, 2007**)

Bariatric surgery (also called "weight loss surgery") is the use of surgical interventions in the treatment of obesity. It's dated back to 1954 when Kremen and colleagues published a case report of jejunoileostomy for weight loss (**Kremen, et al., 1954**). With the development of bariatric Surgery, Surgical treatment of morbid obesity increased in popularity, In recent years, the

number of bariatric procedures performed has markedly increased.

Weight loss surgery relies on various principles; the most common approaches are reducing the volume of the stomach, producing an earlier sense of satiety (e.g. by adjustable gastric banding and vertical banded gastroplasty) and reduce the length of bowel that food will be in contact with, directly reducing absorption (gastric bypass surgery). All procedures can be performed laparoscopically (**Encinosa *et al.*, 2006**).

Although bariatric surgery markedly decreases the excess weight and many of its comorbidities, it aggravates the excess skin due to the large volume loss seen in the post bariatric patient. Therefore, increasing numbers of patients are turning to plastic surgery to complete their metamorphosis and to help them regain a sense of normality.

Massive weight loss (MWL) can lead to considerable breast deformities, which can be a source of particular distress to patients. Deformities commonly seen include excess sagging skin, ptosis, loss or deficiency of breast volume secondary to atrophy, deflated and flattened glands. (**Borud and Warren, 2007**)

Breast ptosis was originally staged by Regnault. Minor ptosis (first degree) occurs when the nipple is at the level of the inframammary fold (IMF). Moderate ptosis (second degree) is when the nipple is below the IMF but above the lowest breast contour. Severe ptosis (third degree) is when the nipple is at the lowest breast contour and below the level of the IMF (**Regnault, 1976**). Mastopexy is a procedure designed to elevate breast tissue and the nipple–areola complex to correct breast ptosis.

Treatment algorithm:

The unique characteristics of the MWL breast have inspired specific technical modifications of standard mastopexy procedures to improve esthetic shape and outcome in these patients. A treatment algorithm based on breast volume was fashioned to help identify the appropriate technique needed to achieve the desired aesthetic outcome. (**Colwell *et al.*, 2009**).

This essay focuses on ways to improve shape, projection, and long-term results, using autologous tissue alone or combined with breast implants. Although the existing implants cannot be considered satisfactory for these patients because of early recurrence of ptosis after application of the heavy implants pulling down the loose redundant breast tissues, for these

reasons, nowadays, the final choice should be reshaping without implants (**Franco, *et al.*, 2010**)

Autologous breast reshaping depends on increasing volume of the breast by utilizing excess axillary tissue (lateral thoracic/spiral/intercostal artery perforator flap), as well as modification of existing superomedial pedicle techniques to maximize breast volume, and increasing breast parenchymal support with suture fixation and dermal suspension. (**Amy and Borud, 2009**).

Alteration in body habitus following massive weight loss presents the plastic surgeon with a number of distinct anatomical sites requiring aesthetic consideration. In order to achieve an optimal result, patients undergoing bodycontouring surgery to the breast usually require additional surgical procedures to address skin and subcutaneous tissue excess in the lateral chest wall and upper arms to avoid aesthetic disharmony. (**Daniel and Le Roux 2010**).

Transposition of lateral intercostal artery flap reduces this lateral chest wall excess, and extension of the vertical donor site scar across the axilla can easily incorporate the brachioplasty excision. Performance of these procedures concurrently in patients who typically require multiple operations helps to further

reduce the impact of surgical treatment, thus increasing patient satisfaction. **(Hamdi *et al.*, 2006).**

Augmentation using redundant autologous tissue from the lateral chest wall that would otherwise be discarded as a result of body-contouring surgery. This reduces the requirement for implants, which may be difficult to cover with a ptotic inelastic skin envelope, and removes the risks of complications and multiple procedures specific to implant augmentation. **(Kwei *et al.*, 2006).**

In addition, patients prefer the improved contour of the lateral chest wall and less obvious vertical donor site scar compared with transverse scars extending onto the back enabling them to wear clothing that exposes their back with confidence. These factors reduce donor site morbidity, which is particularly important with respect to “aesthetic” surgical procedures. **(Daniel and Le Roux 2010)**