Contents

Subjects	
List of Abbreviations	II
List of Figures	IV
List of Tables	X
• Introduction	1
Aim of the work	5
Obesity	6
Bariatric Surgery	30
Gynecomastia	68
Gynecomastia After Massive Weight Loss	119
• Management of Gynecomastia After Massiv	'e
Weight Loss	123
Summary and Conclusion	157
• References	160
Arabic Summary	

List of Abbreviations

AGB	.:Adjustable	e Gastric	Banding

BMI.....Body Mass Index

BPD.....Bilio-pancreatic Diversion

BPD-DS Bilio-pancreatic Diversion with Duedenal Switch

CT.....Computed tomography

CVD.....Cardiovascular disease

DALY..... Disability Adjusted Life Years

EBW.....Excess Body Weight

GB.....Gallbladder

HTNHypertension

IMC.....Inframammary crease

IMF.....Inframammary fold

LABS.....Longitudinal assessment of bariatric Surgery

LAGB: Laparoscopic Adjustable Gastric banding

LAL Laser-Assisted Liposuction

MI.....Myocardial infarction

MWL.....Massive weight loss

NAC....: Nipple-areolar complex

NAFLD...... Nonalcoholic fatty liver disease

PE.....Pulmonary Embolism

List of Abbreviations

RYGB....: Roux en Y Gastric bybass

SAL.....Suction-Assisted Liposuction

SG.....Sleeve Gastrectomy

UAL....Ultrasounic -Assisted Liposuction

VBG....Vertical Banded Gastroplasty

WHO:World Health Organization

List of Figures

<u>No.</u>	<u>Figure</u>	Page
<u>1</u>	The prevalence of raised body mass index increases with income level of countries up to upper middle income levels.	10
<u>2</u>	Adapted from: U.S. National Heart, Lung and Blood Institute; U.S. National Institutes of Health (2000). The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.	16
<u>3</u>	On the left an abdominal CT of a normal weight person.	20
4	Algorithm for the assessment & stepwise management of the overweight or obese adult.	24
<u>5</u>	Completed laparoscopic biliopancreatic diversion with duodenal switch.	40
<u>6</u>	Antecolic antegastric Roux-en-Y gastric bypass.	45
<u>7</u>	Vertical banded gastroplasty.	47
<u>8</u>	Adjustable silicone gastric banding.	50
9	Sleeve gastrectomy.	52
<u>10</u>	Arterial supply of the breast.	72
<u>11</u>	Nerve supply of the breast.	74
<u>12</u>	Ratio1, suprasternal notch to nipple plane over suprasternal notch to pubis.	77
<u>13</u>	Ratio 2: internipple distance over the	78

<u>No.</u>	<u>Figure</u>	Page
	chest circumference;.	
<u>14</u>	Schematic diagram of the modified omega pattern.	89
<u>15</u>	schematic cross-section drawing of the breast to demonstrate this technique.	91
<u>16</u>	(Left) presoperative unilateral gynecomastia. (Center) The incision site and the mass of tissue removed through the incision. (Right) Post operative view at two months.	92
<u>17</u>	A 4-cm incision in the axillary fold.	93
<u>18</u>	A diagram showing the bipedicle technique.	94
<u>19</u>	A. preoperative marking. B areolar flaps raised	95
<u>20</u>	A. the one to seven o'clock incision. B the residual breast central button of breast tissue to cushing the areola. C. circumferential scissor undermining of the gynecomastia and the anterior chest wall in the plane between the subcutaneous tissue and the breast mass. D. placement of a kocher at the gynecomastia edge, traction and freeing the posterior attachments. E. clock wise placement of a second Kocher F. placement of another Kocher and delivery of the mass.	97
<u>21</u>	Previously proposed areolar access incisions for the breast mound.available skin excision.	98

<u>No.</u>	<u>Figure</u>	Page
<u>22</u>	The periareolar–transareolar–perithelial incision applied to the areola. The outer drawing shows the resection limits.	99
<u>23</u>	(Left) the design of the periareolar–transareolar–perithelial incision. A, B, and C are the flaps to be elevated. (Right) The incision extension around the nipple and excision area is shown by the dotted lines. A necessary amount of areola can be excised from the lateral and medial edges of the C flap or the distal edges of the A and B flaps.	100
<u>24</u>	(left), method of determining the amount skin in the vertical direction. (Right), same for horizontal direction.	102
<u>25</u>	(left), method of determining the amount skin in the vertical direction. (Right), same for horizontal direction.	103
<u>26</u>	Grade II B of bilateral gynecomastia. Drawing was done by the equation. (Right), preoperative view. (Left), postoperative view.	103
<u>27</u>	Grade III bilateral gynecomastia prepostoperative.	104
<u>28</u>	Recommended algorithm for treatment of Gynaecomastia.	118
<u>29</u>	Massive weight loss gynecomastia—This 53-year-old manlost 180 lbafter open gastric bypass surgery, bringing him to abody mass index of 36.9. He has	121

No.	<u>Figure</u>	Page
	significant ptosis, lipodystrophy and axillary redundancy extending into the upper back.	
<u>30</u>	Gynecomastia in Obese Adult Males Showing Breast Hypertrophy and Ptosis.	122
<u>31</u>	32Years Old Male Patient with Gynecomastia and Breast Ptosis after Massive Weight Loss.	122
32,33,34	Nipple should lie approximately 11 cm from the sternal midline and 21–22 cm from the sternal notch. Arms are positioned at no greater than 90 degrees from the body and are laid on egg crate to avoid compression. The NAC graft, about 30 mm in size, is wrapped in a saline-moistened gauze, and the side from which it was harvested should be identified.	127- 128
35,36,37	The superior and inferior marks are incised, and breast tissue is removed, ensuring that flap thick-ness is appropriate for the patient's size (Figure 45). The breast tissue is then elevated off of the pectoralis major muscle fascia, leaving some tissue on the fascia to help prevent future seroma formation (Figure 46). New NAC should be marked, aiming to make it no greater than 30 mm in diameter. This area is deepithelialized (Figure 47). A tie-over bolster dressing with petrolatum gauze and mineral oil-soaked cotton.	129- 130
38A,B,C,D	A, B. 30-year-old male who lost 114	131

<u>No.</u>	<u>Figure</u>	Page
	lb through diet and exercise to a body mass index of 29.6. He underwent abdominoplasty, lower back lift and thigh lift, with removal of 16.7 lb of skin. He also had gynecomastia correction through a horizontal excision of tissue with nipple grafting. C, D. Photographs were taken 7 months after surgery	
<u>39</u>	Diagrammatic illustration of the design of the technique.A: Anterior view. B: Lateral view.C: Tucking of the inferior flap under the upper one and exteriorization of the nipple.	135
<u>40</u>	Steps of horizontal approach with inferior de-epithelialized dermofascial Pedicle.	136
<u>41</u>	Eighteen years old male patient with grade three gynecomastia. The patient is on replacementsteroid therapy after bilateral excision of the supra-renal glands Steps of horizontal approach with inferior deepithelialized dermo-fascial Pedicle	137
42,43,44	The infra-mammary fold is marked, and the lines are connected medially and laterally. The midline on the inframammary fold is marked (Figure 42). Positioning arms at no greater than 90 degrees from the body (Figure 43). The NAC grafts are wrapped in saline-moistened gauze and the sidedness should be identified (Figure 44).	142
45,46,47	The Wise pattern is then incised, and the breast tissue is removed (Figure 45A). The breast tissue is then	143

No.	<u>Figure</u>	Page
	elevated off of the pectoralis major muscle fascia (Figure 45B). The dermis is approximated with interrupted, buried, suture, followed by a running intracuticular suture (Figure 46). A new NAC should be marked, aiming to make it no greater than 25 mm in diameter. This area is de-epithelialized (Figure 47)	
48A,B,C,D	A, B. This 22-year-old man presented after losing 200 lb from open gastric bypass surgery to a body mass index of 37. He had Wise pattern gynecomastia correction with nipple grafting, in addition to lower body lift and brachioplasty, with total tissue excision of 33 lb. C, D. The postoperative photographs were taken 30 months after surgery.	144
49A,B,C,D	29-year-old man presented after losing 120 lb from diet and exercise from a body mass index of 59 to 41. He had Wise pattern gynecomastia correction with nipple grafting, in addition to lower body lift. Figure 26-8C–D. The postoperative photographs were taken 2 months after surgery	145
<u>50A,B,C</u>	The nipple should be 22 cm from the sternal notch and 10–11 cm from the midline. The midline on the inframam-mary fold is marked, extending inferiorly. The width of vertical excision is marked and determined with a pinch test. The vertical limbs are measured from the nipple to 8 cm and a crosshatch is made. The vertical limb markings are then connected into an elliptical excision of the axilla and/or back, with degree of excision determined through	152

<u>No.</u>	<u>Figure</u>	Page
	pinch test .	00.000
51A,B,C	Egg crate is placed under all pressure-bearing regions, and axilla and elbows are positioned no greater than 90 degrees (Figure 59-A). Posterior, upper back incisions are made through subcutaneous fat to the latissimus fascia, and the tissue is excised bilaterally, from midline to the midaxillary line (Figure 59-B)Closure is performed in a layered fashion, using absorbable interrupted suture in Scarpa's fascia, absorbable buried interrupted dermal suture and #4-0 monofilament absorbable running intracuticular suture (Figure 59-C)	153
<u>52A,B</u>	The knees are placed on a pillow to encourage flexion and antiembolism support stockings and sequential compression devices as well as a lower body forced warming blanket to avoid hypothermia (Figure 52-A). The NAC should be harvested as a full thickness skin graft (Figure 52-B)	154
<u>53A,B</u>	The breast tissue is then elevated off of the pectoralis major and serratus muscle fascia, leaving some tissue on the chest wall to protect against seroma formation	154
<u>54</u>	A new NAC should be marked, aiming to	155

List of Figures

No.	<u>Figure</u>	Page
	make it no greater than 30 mm in diameter. This area is de-epithelialized	4 1 ABB 1
<u>55</u>	Petrolatum gauze and absorbent pads are placed on the chest, and elastic bandages are wrapped around the chest	155
<u>56</u>	41-year-old man who lost 163 lb after open gastric bypass surgery. He underwent gynecomastia correction through a J excision extending into his upper back, combined with abdominoplasty, hernia repair, and lower back lift, with removal of 9.3 lb of skin. D–F. The photographs were taken 13 months after surgery.	156

List of Tables

No.	<u>Table</u>	Page
1	The most commonly used definitions, established by the world health organization" WHO".	7
2	Measurements of obesity by waist circumference in relation to BMI.	19
3	Timeline of breast development.	77



Introduction





Aim of the Work





Obesity

