

Mastopexy Autoaugmentation: A Simple Method Which Keeps the Size of the Breast and Enhances its Projection

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ABSTRACT

This article presented a simple method for simultaneous mastopexy with autoaugmentation for the small or medium-size ptotic breasts. The study included 25 female patients. The author used the vertical scar mastopexy and augmented the breast with an inferior-based flap of deepithelialized dermoglandular tissue inserted beneath the breast parenchyma of a superior based nipple-areolar complex pedicle. The technique gave satisfactory results in term of good breast shape, fullness at the upper pole of the breast, nice projection, and reduced bottoming-out. The technique is simple, maintained the size of the breast and avoided the augmentation by a breast implant.

INTRODUCTION

Mastopexy of small ptotic breasts presents one of the greatest challenges to the plastic surgeons. The aesthetic goals are to obtain a more youthful appearance, reduced ptosis, and improved projection. Breast ptosis can be due to several factors but gravity seems to be a common factor. Aging, peripartum enlargement, postpartum involution and several other factors can contribute to the diminished elasticity of breast tissues over time, the end result of which is a ptotic breast [1,2].

Gonzalez-Ulloa [3] and Ragnault [4] first advocated mastopexy with augmentation for the correction of ptosis with hypoplasia. Mastopexy augmentation with mammary implant became the most popular technique for small and medium size breasts [5-7]. Johnson [8], among others [9-13] have used polygalactine or marlex mesh to lift the breast parenchyma to obtain a long lasting breast lift. Benelli [14] reported the use of the periareolar round block or purse string mammoplasty. Different techniques aiming to recreate the breast fullness by using autologous tissue have been described by Weiss and Ship [15] and Flowers [16]. Hall-Findley [17] used a medial-based pedicle modification of the vertical scar approach first described by Lejour [18]. Graf and Biggs described a modification of the vertical approach that places an autologous

tissue flap deep to a strip of pectoralis muscle to improve the shape and maximize the longevity of the mastopexy [19]. Suspension techniques using the pectoral fascia were also tried [20].

Mastopexy of small or medium-size breasts is more challenging to plastic surgeons when those patients seek for lifting of the their ptosed breast, maintaining its size and they do not have the desire to use a breast implant. In these circumstances, mastopexy combined with autoaugmentation is an alternative method. Franz Honig and his colleagues [21] used an inferior-based flap of deepithelialized dermoglandular tissue inserted beneath the breast parenchyma of a superior based nipple-areolar complex pedicle to autoaugment the breast. In this study, the author tried this method to autoaugment the breast, improve the projection, and enhance the desired fullness in the upper pole of the breast.

PATIENTS AND METHODS

This study was conducted to twenty-five female patients between March 2008 and December 2009 in Al-Salam International Hospital, State of Kuwait. All patients had small or medium-size breasts with different degree of ptosis. The age of the patients ranged from 23 to 48 years with an average of 31 years. The cause of breast ptosis was postpartum involution changes in 15 patients, and after weight loss following bariatric surgery in 7 patients. All patients requested lifting of their breast, improving the projection, keeping its size and fullness at the upper pole of the breasts. Routine preoperative assessment of the breast was carried out which included the degree of ptosis, the skin elasticity and the status of the breast parenchyma. Standard preoperative and postoperative photographs were taken.

Marking of Le jour technique 18 of vertical scar mastopexy was drawn while the patient in the

standing position (Fig. 1A). The distance between the nipple and the sternal notch as well as the distance between the nipple and the inframammary fold were measured on both sides. Any degree of asymmetry was adjusted in the marking of new positioned nipple. All patients were operated under general anesthesia. One gram of third generation cephalosporin was given intravenous at the start of surgery.

Surgical technique:

Ten minutes after infiltration of 1:500.000 adrenaline/saline, the overlying skin of the marked superior pedicle and lower segment dermoglandular flap was deepithelialized (Fig. 1B). With the use of diathermy connected to a fine Colorado needle, the cutting and dissection of the pedicle was carried out creating a superior pedicle with NAC. The lower segment dermoglandular flap was dissected from the medial and lateral pillars of the breast as well as deeply from the pectoral fascia (Fig. 1C,D). Dissection was continued underneath the medial and lateral flaps, as well as deep to the superior pedicle to create a pocket. After completion of hemostasis, the NAC was transposed superiorly to the proposed new site.

The inferior dermoglandular flap attached superiorly at the NAC was turned over and tackled to the pectoral fascia underneath the superior pedicle (Fig. 1D). Three stitches of 2/0 non-absorbable sutures were taken deep to the dermoglandular flap and fixed to the pectoral fascia opposite the third rib at a direction of 2,10,12 o'clock (Fig. 1E).

Temporary closure of the medial and lateral pillars was done by staples (Fig. 1F). With the patient in the sitting position, the shape, projection and symmetry were judged. Suction drain was inserted. The deep layers of the medial and lateral flaps were then gathered by vicryle sutures 3/0 then the subcutaneous layer with 3/0 vicryle. The skin was closed by 4/0 intradermal monocryle suture. The areola was adjusted to a rounded circle with diameter 4.2cm, and any excess skin was trimmed with a sharp scissor. Skin of the areola was closed by subcutaneous vicryle 4/0 and intradermal monocryle 4/0. Brown steri-strips adhesive plasters were applied on the suture lines of the areola and the vertical scar. The patient was worn push-up medical bra.

RESULTS

This study included twenty-five female patients who have had small or medium size breasts with variable degrees of breast ptosis. Follow-up period of the results ranged from six months to two years with an average of 18 months. Twenty-three patients were highly satisfied in terms of good size, shape, projection and fullness at the upper pole of the breast (Figs. 2,3,4). However, one patient neither achieved a good projection nor fullness at the upper pole of the breast. The other patient developed bottoming-out at six months postoperative and a secondary mastopexy was performed.

Two patients developed seroma which resolved after repeated aspiration. One patient developed infection at the left breast and it required drainage under general anesthesia.

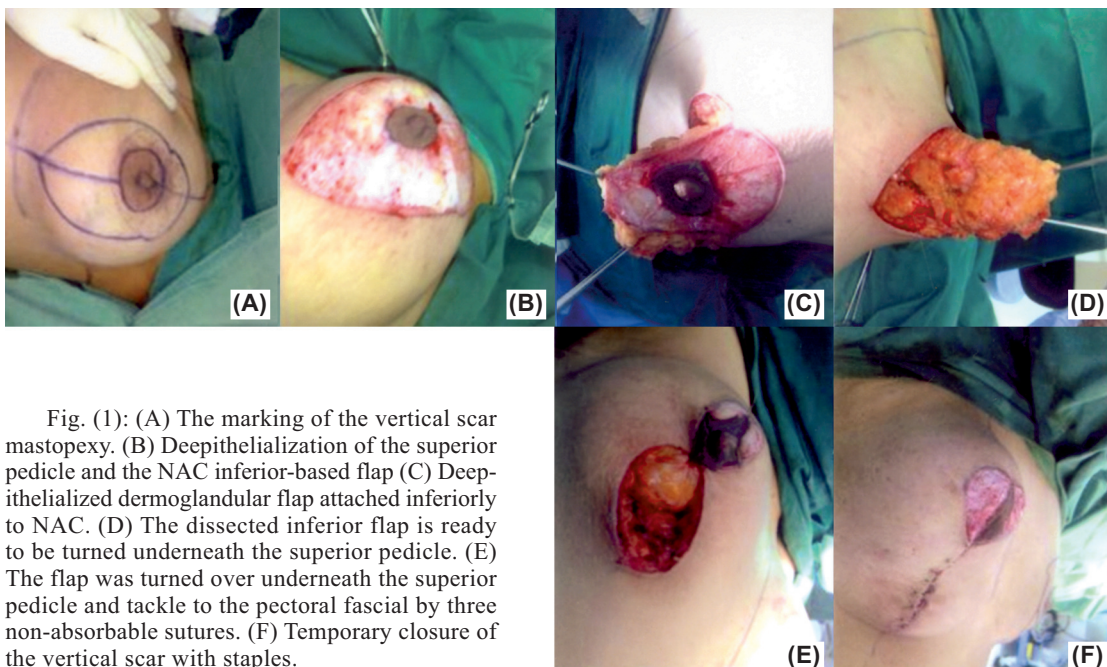


Fig. (1): (A) The marking of the vertical scar mastopexy. (B) Deepithelialization of the superior pedicle and the NAC inferior-based flap (C) Deepithelialized dermoglandular flap attached inferiorly to NAC. (D) The dissected inferior flap is ready to be turned underneath the superior pedicle. (E) The flap was turned over underneath the superior pedicle and tackle to the pectoral fascial by three non-absorbable sutures. (F) Temporary closure of the vertical scar with staples.

Fig. (2): (A,B) The preoperative front and lateral views of 35-year old patient with ptosis of her breast. (C,D) The front and lateral views of the breast three months postoperatively. The patient developed good shape of the breast, good projection and fullness at the upper pole.

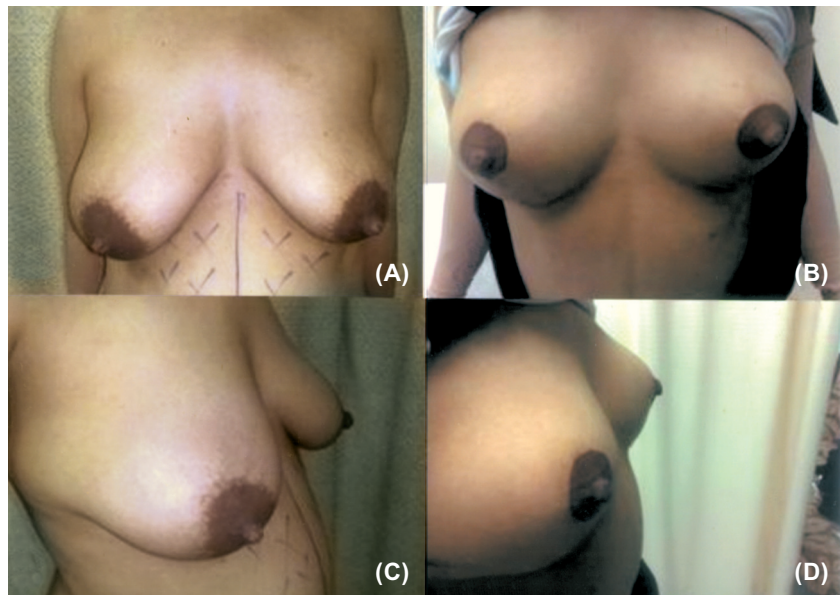


Fig. (3): (A,B) The front and lateral views of 31-year old patient with ptosis of her breast. (C,D) The front and lateral views of the breast two weeks postoperatively. The patient developed good shape of her breast, good projection and fullness at the upper pole.

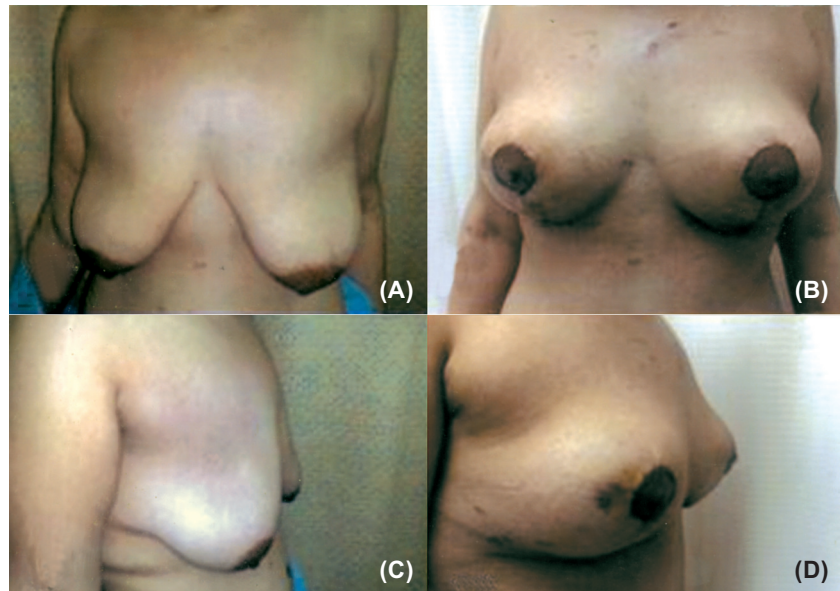
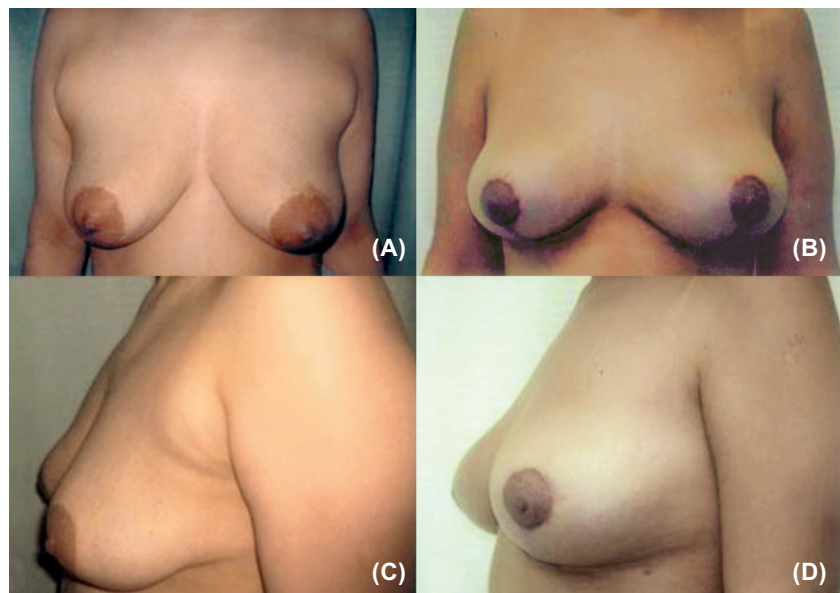


Fig. (4): (A,B) The preoperative front and lateral views of 33-year old patient with ptosis of her breast. (C,D) The front and lateral views of the breast six months postoperatively. The patient has good shape of her breast, good projection and fullness at the upper pole. The patient had liposuction of the fat at the anterior axillary fold.



DISCUSSION

Mastopexy of the small and medium-size breasts without a decrease in its size, improving its projection, and maximize the fullness of the upper pole was always the greatest challenge. In such cases, mastopexy with augmentation of the breast with mammary implant was logical solution. Gonzales-Ulloa followed by others introduced the concept of combined augmentation with mastopexy [3-7]. Over the past few years, there has been an increase in the discussion of augmentation combined with mastopexy throughout the literature. Bottoming-out of the breast, asymmetry, and implant capsular contracture were the drawbacks of the technique [7,22-25].

Women in some cultures have a silicone phobia and they regret the use of mammary implant. Within these circumstances, autologous soft tissue autoaugmentation became an alternative. Autoaugmentation mammoplasty dates back to Ribeiro's report [26] and revised with his colleagues [27]. This procedure removes breast tissue from the area with more tissue and places it in an area with a deficit. This tissue works as a natural prosthesis and provides good fullness at the upper pole of the breast. This idea stimulated other surgeons to use the vascularized dermoglandular flaps to auto-augment the breast. From South Africa, Fayman, [28] published his personal technique for autoaugmentation. He used inferiorly based dermoglandular flap and transposed it behind the nipple-areolar complex and sutured to pectoralis fascia. Hönig and his colleagues, [21] used the same technique and showed their good results.

In our study, we tried to apply this innovative technique for selected group of patients who have had small and medium-size ptotic breasts, and they regret the use of mammary implant. With exception of two patients, 23 patients showed satisfactory results in terms of good breast shape, projection, and fullness at the upper pole. Furthermore, the size of the breast did not change. Loosening of the stitches anchoring the flap to the pectoral fascia may explain the bottoming out and recurrence in two patients.

Physiological basis for this technique is based on the utilization of the breast tissue as a biological breast implant to increase the breast projection. A flap support behind the nipple and areola seems to reduce the risk of retracted nipple. Initially, the technique usually results in a tight and flat lower pole of the breast and excessive fullness on the

medial and lateral portions of the breast. Three to six months are required for the final shape of the breast.

Conclusion:

Mastopexy autoaugmentation with autologous dermoglandular flap is an innovative simple technique that can be used in lifting of small and medium-size breasts. The author recommends the use of this technique because of its versatility, safety, and long-lasting results.

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