

# Gynecomastia Associated With Herniated Nipples

## *An Optimal Surgical Approach*

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**Introduction:** Gynecomastia is a common disorder observed in male plastic surgery patients. Treatment options may include observation, surgical excision, or liposuction techniques. Congenital herniated nipple is a more rare condition, especially in male patients. We present the case of a 12-year-old boy with bilateral gynecomastia and herniated nipple-areolar complexes.

**Methods:** A staged repair was undertaken in this patient with grade 2 gynecomastia. The first operation was ultrasonic liposuction bilaterally, yielding 200 mL of aspirate from the left and 400 mL on the right, to correct the gynecomastia. The second procedure, performed 6 months later, was a bilateral periareolar mastopexy to repair the herniated nipple-areolar complexes.

**Results:** The result of the first procedure was flattened and symmetrical breast tissue bilaterally, essentially a correction of the gynecomastia. The herniated nipples were still present, however. Bilateral periareolar mastopexies were then performed with resulting reduction of the herniations. There were no complications with either procedure, and a good cosmetic result was achieved.

**Conclusions:** A staged surgical approach was successful in correcting both conditions with an excellent aesthetic result and the advantage of decreased risk for nipple complications.

**Key Words:** gynecomastia, staged, treatment, herniated, nipple, adolescent

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Gynecomastia, the presence of excess male breast tissue, is a common condition estimated to occur at least transiently in most males at some point during adolescence.<sup>1,2</sup> Herniation of breast tissue through the areola is associated with tuberous breast deformity in both women and men. Tuberous breasts are characterized by an absence of the outer layer of superficial fascia underneath the areola and a constricting ring at the breast base leading to entrapment of breast tissue and protrusion of tissue into the nipple-areola.<sup>3</sup> The prevalence of this condition in male patients is unknown. Klinger et al have proposed adding gynecomastia associated with tuberous breasts into the existing classification scheme and believe the condition to be fairly common.<sup>4</sup> However, very few published reports of gynecomastia associated with herniated nipples have appeared in the literature,<sup>4,5</sup> and thus the optimal treatment strategy has not been delineated.

Herein, we present the case of a male adolescent male with gynecomastia and herniation of breast tissue through the nipples bilaterally. A staged approach of ultrasound-assisted liposuction

(UAL) and periareolar mastopexy was undertaken as the operative strategy to avoid the potential for nipple loss and external scarring—compared with an open approach—and the ability to adequately reduce herniated tissue considered likely impossible with suction-assisted liposuction alone. It is our hope to develop a more effective and less invasive approach to male gynecomastia patients with herniated nipples, thus an optimal outcome can be achieved in these patients.

### PATIENT REPORT

A 12-year-old boy presented for evaluation and treatment of gynecomastia. Previous workup by the referring physician ruled out any pathologic etiology. He had no medical history and took no medications. On physical examination, it was observed that Simon grade IIa gynecomastia was present bilaterally. The right breast was larger than the left. In addition, each areola had herniation of breast tissue—right greater than left (Figs. 1A–C). A 2-staged operation was planned for optimal correction.

The first stage of the procedure consisted of ultrasonic liposuction of both breasts. A total of 400 mL of aspirate was removed from the right breast and 200 mL from the left breast. The procedure was without complications. Postoperatively, the patient had a flattened, smooth contour of the chest wall, although the herniations through the nipples remained (Figs. 2A–C).

The second stage was a periareolar mastopexy undertaken 6 months after the first procedure. A circumferential area around each areola was marked and deepithelialized. The incisions were then closed using a 3-0 Prolene purse-string suture, creating enough tightening to effectively reduce the remaining herniated breast tissue.

At follow-up after the second procedure, the patient remained with a flattened chest and without any noticeable herniation through the nipples. Periareolar scarring was minimal at follow-up (Figs. 3A–C).

### DISCUSSION

Gynecomastia associated with tuberous breasts has an unknown prevalence and may be a fairly common condition<sup>4</sup>; however, there are few reports discussing the optimal treatment strategy. Proper surgical management for this condition has not been established in the literature.

Hamilton and Gault published a report of 2 patients with these conditions.<sup>5</sup> One patient was treated using a wise-pattern skin excision, and then, applying the nipple as a free graft, complicated by hypertrophic scarring and hypopigmentation of the nipple. The other patient was treated primarily using a circumferential areola-reducing approach for direct removal of dermis and glandular tissue. Liposuction was then used as an adjunct to create a smoother contour. No complications were noted with these patients, though long-term follow-up was not described.

Klinger et al described their technique in treating 6 patients with gynecomastia and tuberous breasts.<sup>4</sup> Their approach was also taken in a single stage and involved traditional liposuction followed by direct resection of breast tissue, release of the constricted base,

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**FIGURE 1.** A–C, At initial presentation, the patient complained of excessive breast tissue and was also found to have herniated nipples.



**FIGURE 2.** A–C, At 2 months postoperatively, the patient has a flattened contour of the breast bilaterally. Persistent herniation of the nipples remains the same.



**FIGURE 3.** A–C, Eight months after the initial procedure and 2 months after the second procedure. The patient has a smooth chest wall with flattened breast mounds and reduction of herniated nipples.

and periareolar deepithelialization. A suction drain was placed as well. The authors noted good cosmetic results at 1-year follow-up.

UAL has recently been described in the literature for the treatment of gynecomastia.<sup>6–8</sup> The mechanism of action of UAL involves the transmission of ultrasound energy via crystals attached to suction cannulas selectively emulsifying fat while preserving surrounding structures; the glandular elements remain unaffected.<sup>8,9</sup> UAL is specifically useful in gynecomastia because of its superior ability to remove dense and fibrous tissue that often characterizes the male breast.<sup>8</sup> Other reported advantages over direct excision or suction-assisted lipectomy include minimal scarring, postoperative skin retraction/contraction, reduced physical exertion and better control of the probe, decreased postoperative bruising, decreased likelihood of conversion to open excision, improved feathering at

treatment edges, disruption of the inframammary fold, and minimal need for cross-tunneling.<sup>6–8</sup>

Various other reports have suggested numerous methods by which UAL can be used in combination with other modalities to treat gynecomastia. A single-stage approach utilizing adjuncts such as convention liposuction and gland excision via a semicircular periareolar incision<sup>10</sup> has been described as appropriate for all stages of gynecomastia. Another single-stage approach uses UAL and direct excision of breast tissue via a single 1-cm periareolar incision.<sup>6</sup>

Our approach differed from previous reports in several important ways. UAL was used as the sole modality for removing breast tissue. Compared with using suction-assisted liposuction and/or direct excision, there was decreased trauma to the nipples in

addition to no initial periareolar incision. This made the likelihood of nipple survival high, as there was no disruption to any of the pedicles. In addition, the more extensive or unnecessary breast skin resection can be avoided and may result in less scarring after surgical correction of gynecomastia, with or without herniated nipples.

The 2-stage approach is perhaps the biggest difference in our chosen strategy. The main advantage compared with a single-stage procedure is the virtual elimination of tissue distortion caused by liposuction. The tissues were given time to heal and contract, thereby allowing us to more accurately visualize the end result when doing the periareolar mastopexy and plan accordingly. Rohrich et al believe that in patients with residual subareolar tissue, a second operation should be undertaken 6 to 9 months later to allow for interval skin retraction and avoidance of extensive skin incisions.<sup>8</sup> Figures 2A to C were taken at follow-up appointments in between stages and essentially show how the final breast contour would appear. During the second stage, no glandular tissue was resected, as this was felt to be unnecessary because of the already excellent chest wall contour achieved from the first stage. Had a single-stage approach been performed, it is possible additional tissue would have been resected because of inability to clearly visualize the final result. More extensive skin incisions also would be more likely with a single-stage procedure. This, of course, could have led to potential complications such as nipple necrosis.

### CONCLUSIONS

An optimal outcome can be achieved in treating gynecomastia associated with herniated nipples. Dividing the operative treatment into 2 stages can avoid undue trauma to the nipple and allow for less intraoperative distortion of tissues, potentially leading to a more predictable or an even better clinical outcome. A single-staged

procedure, as previously described, can be performed, although the potential for nipple loss may be increased. Using our approach, extensive and “unnecessary” breast skin resection may be avoided compared with the single procedure. A future large clinical series comparing a 1- versus 2-stage approach may be helpful in defining the efficacy of each treatment strategy.

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