Techniques in
Cosmetic Surgery

A New Method for Aesthetic Reduction of Labia Minora (the Deep epithelialized Reduction Labioplasty)

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An enlarged labium minus can be bothersome for functional, aesthetic, and social reasons. Labia minora hypertrophy can be congenital or acquired by chronic irritation, exogenous androgenic hormones, or stretching with weights. This can cause inflammation, poor hygiene, interference with sexual intercourse, or intermittent urinary self-catheterization in myelodysplastic women.

Aesthetically, an asymmetric or enlarged labium minus causes self-consciousness sexually and when the subject wears tight pants. Previously, labia minora reduction was performed by amputation of the protuberant segment and oversewing the edge, or a wedge of protuberant labial tissue was excised and reapproximated. However, the former technique removes the natural contour and color of the edge of the labium minus, and the latter can result in an incomplete or tight reduction.

Therefore, rather than an amputation or a wedge resection, we preserved the natural contour and anatomy of the labium minus by simply reducing its central width through bilateral deep epithelialization and reapproximation of the central portion with preservation of the neurovascular supply to the edge.

Six patients have undergone this reduction method with excellent results without specific complications. (Plast. Reconstr. Surg. 105: 419, 2000.)

Female circumcision is practiced routinely in Islamic/Arabic countries and is called Kufid (reduction) or tahera (purification). Female circumcision was practiced in ancient Egypt and relates to the Pharaonic belief in bisexuality of gods.1

The sociologic, religious, and historical traditions are giving way to the decisions of more modern, educated women who less frequently allow their daughters to be circumcised.2

But recently, women have become more aware of differences in genital appearance owing to publications of nude pictures in magazines and nude presentation in movies and videos and on the Internet. If the labia minora are enlarged or unequal in size, some women harbor secret feelings of being deformed or abnormal, causing embarrassment and loss of self-esteem, whereas labia minora protruding past the labia majora are considered aesthetically unacceptable to these women.

In public bath houses in Korea, all of the women are naked and bathe together. In such circumstances, women with abnormally large labia minora lose self-esteem and refuse to go to public baths. Furthermore, the labia minora enlargement is usually congenital, but unaffected women usually misunderstand it as being a result of excessive masturbation or sexual intercourse.3

Such patients may desire labial reduction for hygienic reasons, to relieve chronic irritation, to make urinary self-catheterization easier, or to prevent interference with sexual intercourse and to become less self-conscious in sexual situations or when wearing tight pants.

PATIENTS AND METHODS

We performed labia minora reduction by deep epithelialization of the central portion and reapproximation in six patients from February of 1990 to March of 1999. Patients' ages ranged from 13 to 40 years (mean age, 26.5 years). The reasons for the operation varied and were as

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TABLE I
Reasons for the Operation in Patients with Large Labia Minora

<table>
<thead>
<tr>
<th>No.</th>
<th>Age</th>
<th>Marital Status</th>
<th>Chief Complaints</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
<td>Yes</td>
<td>Interference with sexual intercourse</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>No</td>
<td>Can't wear tight pants</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>No</td>
<td>Increasing size with vaginal agenesis</td>
</tr>
<tr>
<td>4</td>
<td>55</td>
<td>Yes</td>
<td>Interference with sexual intercourse</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td>Yes</td>
<td>Increasing size with poor hygiene</td>
</tr>
<tr>
<td>6</td>
<td>21</td>
<td>No</td>
<td>Unequal in size with vaginal agenesis</td>
</tr>
</tbody>
</table>

The patients were examined preoperatively in the lithotomy position. By using a mirror to visualize her genitalia, the patient indicated what she considered an abnormal appearance, and the operation was fully described and discussed.

follows: could not wear tight pants, unequal in size, increasing size, and interference with sexual intercourse. However, all of the patients complained of not being able to go to public baths and a loss of self-esteem (Table I).

Fig. 1. (Above) An unequally large size of labium minus with the patient in the lithotomy position, which protruded past the labium majus. (Below) Marking on the central portion on both sides of the labium minus for deepithelialization.
With the patient in the lithotomy position, the procedure was performed under general (two patients combined McIndoe operation because of vaginal agenesis) or local (four patients) anesthesia. Because the labium minus varies among patients, the width of reduction varies. The labium minus was mildly stretched laterally, and the central deep epithelializing area on the medial and lateral sides was marked. Afterward, local anesthetic infiltrations (1% lidocaine with 1:200,000 epinephrine) were done without distorting the anatomy (Fig. 1). Then, deep epithelializations were done, and the margins of the raw surface were reapproximated by running suture with 4-0 catgut. The labia should protrude slightly past the introitus, so the labial width should be about 1 cm (Fig. 2). Topical antibiotics were applied on the suture lines. No vaginal packing or urinary catheterization was needed. The patient usually heals well, and a normal-appearing labium minus is obtained.

RESULTS

The deep epithelialized reduction labioplasty was successfully performed without specific complications. All patients were satisfied with the postoperative appearance, improved hygiene, urination, relief of chronic irritation, and sexual intercourse. Also, they recovered their self-esteem and had no difficulty wearing tight pants.

Fig. 2. (Above) After marking, deep epithelialization was done on both sides of the labium minus, and the deep epithelialized tissue was removed. (Below, left and center) Afterward, the margins of the raw surface were reapproximated by running suture with 4-0 catgut, and the immediate postoperative view shows the labium minus protruding slightly past the introitus. (Below, right) The 5-month postoperative view shows the natural color, contour, and texture of the reduced labium minus.
DISCUSSION

There is a great variation in the size of the labia minora. When enlargement occurs, most patients can be reassured that no treatment is required, and many gynecologic surgeons are reluctant to perform reduction operations. Labia minora enlargement can be congenital as detailed by Caprarol and Radman. Another factor is mechanical irritation, which is thought to be one of the main etiologic factors in hypertrophy of the labia minora.

A famous example is the “Hottentot apron,” which is an artificial hypertrophy produced by manual stretching or by weights. Excessive masturbation and intercourse have also been recognized as causes. And, in myelodysplastic women, hypertrophy of the labia minora can result owing to continual inflammation and mechanical irritation.

Reduction of the labia minora may improve the physical comfort and sexuality of some women. Care should be taken not to extend the labial resection to the fourchette and to keep the labial width to about 1 cm, so that the labia will protrude just past the introitus. But this method removes the normal natural contour, texture, and color of the edge of the labia minora.

Alter’s method of wedge resection of the protuberant labial tissue and reapproximation has the possibility of tightness of the introitus or pulling during sexual intercourse and, in some cases, inadequate reduction of the width of the labium minus. In comparison with these methods, the deep epithelialized reduction labioplasty results in a well-preserved natural contour, texture, and color of the edge of the labium minus with preservation of the neurovascular supply to the edge.

CONCLUSIONS

The reduction labioplasty is performed easily in about 30 minutes by deep epithelializing the central portion of the labia minora and reapproximating the margin of the raw surface with continuous 4-0 catgut suturing.

This method achieved excellent aesthetic results by preserving the natural color, contour, and texture of the edge of the labia minora, bringing about improved hygiene, physical comfort, sexual intercourse, and sexual attitude (increased confidence in their sexuality). Also, the patients were no longer uncomfortable or embarrassed when bathing in public baths or when wearing tight pants.

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Discussion by Donald R. Laub, M.D.

In my experience with sex change surgery and genital surgery, about 25 patients have been referred to me for evaluation and treatment of hypertrophy of the labia minora. After I have studied the patients’ psychological overlay and surgical symptoms and have observed the pathology, each patient has been subject to surgical treatment, all with success save one complication. The following are observations:

1. The gynecologic literature extant in 1971, i.e., Caparo’s article1 in Clinical Obstetrics and Gynecology and those in his bibliography, mentioned complication of patient dissatisfaction and even neuroma-like hypersensitivity after surgery. Therefore, the caution of the gynecologic surgeon was reflected not only in the articles but also in their clinical practice, because they referred patients who occasionally had over-resection around the clitoris and/or had inaccurate reapproximation of tissue with resulting symptomatic scar.

2. The excessive size of the labia minora may be congenital, because the problem does occur in young girls. But patients who masturbate a lot or participate in sexual activities quantified above “normal” do increase labial size. For example, gender identity disorder patients, female-to-male, are encouraged to stretch the tissue to prepare for metoideoplasty, and the result is a type of tissue expansion.

3. The large size of labia minora may, in certain cases, become an asset, because large labia minora may be utilized in Mullerian duct vaginal agenesis to form a lining of the vagina in neocolpoiesis surgery.

4. The hypertrophy is not only in width—i.e., the amount hanging below the labia majora—but also in length. This anatomic fact has prompted Alter to cleverly design his surgery to resect in both dimensions. Alter2 also preserves the natural edge of the labia, as Choi and Kim emphasize (Fig. 1). Both length and width are reduced.

Regarding suturing technique, simple interrupted sutures placed loosely accommodate the rather impressive postopera-

Fig. 1. Schematic diagram of the reduction of labia minora with a full-thickness resection pattern as advocated by Alter, and as modified by Laub to include reducing both length and width.

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tive swelling that may occur in genital tissues.

5. Actually, the Choi and Kim operation has an advantage over Alter’s surgery. I would expect better healing with the Choi and Kim version. Alter’s operation was brilliantly conceived, but it involves a great deal of healing of flap tissue and may result in small separations of the healing edges of the full-thickness through-and-through repairs, which small offsets and Z’s would help. Choi and Kim’s technique seems to be physiologically sound and the answer to the above challenges. In the Choi-Kim technique, full-thickness repair does not occur, and in fact their repair utilizes additional healing layers. The circulation to the healing edges is virtually undisturbed.

Whether actual deep epithelialization can be surgically accomplished in labia minora tissue, which has a very thin dermis (similar to eyelid dermis), is not relevant. Even if the subdermal vascular plexus is not fully preserved in “deep epithelialization,” the areolar tissue and the vascularity around the crecile-type tissue, just beneath, are more than adequate for healing purposes.

6. I would anticipate that laser resurfacing might work nicely as a method to achieve deep epithelialization, but the power settings would have to be worked out.

7. In case of hypertrophy of the labia minora in a more mature person, a situation in which some general laxity of tissue would be present, another helpful technique is to include clitoropexy, which has in effect tightened the labia minora (Fig. 2). Clitoropexy (first published by me) consists of a V-to-Y plasty, moving the clitoris and its attached “chordee” tissue (which is labia minora) in an anterior and superior direction. A deep holding suture from the suspensory ligament of the clitoris to fascia or periosteum of the pubis is helpful, of course.

The Choi and Kim article is a welcome addition to our growing fund of knowledge in this area of plastic surgery.

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**REFERENCES**