Abstract

Objective: To evaluate laser labioplasty for the correction of hypertrophy and asymmetry of labia minora. Methods: Between October 2003 and November 2004, 55 labioplasties were performed at the Clínica Las Condes, Santiago, Chile. On the 60th postoperative day a questionnaire was presented to the patients, who were aged between 10 and 55 years, to assess their acceptance of and satisfaction with the intervention. Results: The primary indications for surgery were moderate hypertrophy with aesthetic and/or functional or impairment, or labial asymmetry (37 cases [67%]). Four patients (7%) experienced minimal suture dehiscence during the early postoperative period. Of the 55 patients, 50 (91%) were very satisfied, 5 (9%) were satisfied, and none were dissatisfied. Conclusions: Patients expressed a high degree of satisfaction with laser labioplasty, which can be combined with other surgical gynecologic interventions without increased complications.

1. Introduction

Labia minora hypertrophy can be attributed to many factors [1], including the administration of androgenic drugs to infants [2] and chronic irritation [3,4], but an idiopathic or even congenital origin is most commonly assigned [1].

Women with labia minora hypertrophy often approach their physicians about labioplasty for aesthetic, functional, and/or psychologic reasons [3,5–7]. Sometimes the condition renders walking, seating, practicing certain sports such as cycling and riding, and personal hygiene difficult [7], and it can hamper sexual life and couple relations.

Labia minora hypertrophy has been defined as labia minora longer than 4 cm, and the condition is often asymmetric [7]. Different methods can be used to perform labioplasty, but laser labioplasty might be preferable to all others [8].

This report on laser labioplasty for the correction of hypertrophy and/or asymmetry of the labia
minora presents the authors’ experience with this method.

2. Patients and methods

2.1. Categories of labia minora hypertrophy and reasons for surgical correction

Between October 2003 and November 2004, 55 labioplasties were performed at the Urogynecology and Vaginal Surgery Unit of the Department of Gynecology and Obstetrics of Las Condes Clinic, Santiago, Chile, on patients who sought correction of their condition for aesthetic, functional, and/or psychologic reasons.

The patients ranged in age between 10 and 55 years, and 11% were younger than 20 years (Fig. 1). Their conditions were categorized as “lacking true hypertrophy,” “moderate true hypertrophy,” and “severe true hypertrophy,” according to the Ricci and Pardo classification of labia minora hypertrophy for surgical correction created at Las Condes Clinic. “Mild hypertrophy” was not considered a category.

“Lacking true hypertrophy” referred to labia minora measuring up to 2 cm, i.e., of normal size and no zone of greater growth, but with a morphological defect such as asymmetry; “moderate hypertrophy” referred to labia minora measuring between 2 and 3 cm, with zones of greater growth; and “severe hypertrophy” referred to labia minora measuring 4 cm or more, with or without zones of greater growth.

Aesthetic reasons were attributed to patients requesting correction of the condition simply because of personal preferences; functional reasons to patients who experienced pain, found tight-fitting clothes (such as sports clothes) uncomfortable, or were concerned about their hygiene; and psychological reasons to patients whose condition resulted in mood disorders, impairment of intimate relations, or distress in relationships with self and/or others.

During the first consultation, the patients were given a questionnaire to determine the reasons (aesthetic, functional, and/or psychological) they considered the most likely to have caused them to request labioplasty. In 36 (65%) of the 55 patients, labioplasty was combined with another gynecologic surgical intervention.

The procedure was explained to all patients, who then gave signed consent. All patients received regional anesthesia, including those who underwent combined surgical procedures.

2.2. Surgical technique

With the patient in the gynecologic position, the surgeon decides where the incision line will be and traces it with ink on the internal aspect of the right labium minus. This labium is immediately placed against the left labium minus where the ink line is transferred for maximum symmetry. With the labia then extended on gauze strips fixed to the ingui-

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Indications for labioplasty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormality of labia minora</td>
<td>Aesthetic</td>
</tr>
<tr>
<td>Lacking true hypertrophy</td>
<td>11 (20)</td>
</tr>
<tr>
<td>Moderate Hypertrophy</td>
<td>35 (64)</td>
</tr>
<tr>
<td>Severe Hypertrophy</td>
<td>7 (13)</td>
</tr>
<tr>
<td>Total patients</td>
<td>53 (96)</td>
</tr>
</tbody>
</table>

Values are given as number of patients (percentage).
In the rural area, the excessive tissue is excised using a contact laser (CLMD 60 Contact Laser Nd:YAG laser and sapphire scalps ER2; Surgical Laser Technologies Inc., Montgomeryville, PA, USA) at an average power of 10 W. The standard technique is of course adjusted to the characteristics of each patient.

Although blood loss is minimal, occasionally small arteries will require electrocautery. Before suturing, if there is a disproportion between the clitoral prepuce and the newly sized labia minora, parts of the prepuce are removed on both sides of the clitoris before the incision is closed with 4-0 vicryl. Intravenous ketoprofen, plus 10 mg of oral valdecoxib per day the first 4 to 5 postoperative days, are used for the management of pain. The intermittent use of ice pads during the first 4 to 5 days is also important for the management of postoperative pain and inflammation after vulvoperineal procedures.

In all cases when only labioplasty was performed, hospital discharge occurred 3 h after surgery. When labioplasty was combined with vaginal hysterectomy, discharge occurred after 48 h; and when it was combined with perineoplasty or tension-free vaginal tape placement, it occurred after 24 h.

A first postoperative visit took place on the 7th postoperative day, with a second visit 35 to 40 days after surgery. On the 60th postoperative day all patients answered a satisfaction and acceptance questionnaire with general and specific questions.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Not satisfied</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic</td>
<td>50 (91%)</td>
<td>5 (9%)</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Functional</td>
<td>55 (100%)</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
</tbody>
</table>

Values are given as number of patients (percentage).

![Figure 2](image-url)  
(A) Twenty-five-year-old patient with bilateral asymmetry of labia minora. Photography before labioplasty. Aesthetic and functional factors. (B) Image after laser labioplasty technique.
3. Results

Of the 55 labioplasties, 19 (34.5%) were performed alone and 36 were combined with vaginal hysterectomy, anterior or posterior perineoplasty, and/or tension-free vaginal tape placement. In 20 of these 36 cases 2 other interventions were combined with labioplasty.

The primary surgical indication for labioplasty was “moderate hypertrophy” \((n=37 \text{ [67%]})\), followed by “lacking true hypertrophy” \((n=11 \text{ [20%]})\), and “severe hypertrophy” \((n=7 \text{ [13%]})\) (Table 1).

When asked why they requested labioplasty, all patients in the “lacking true hypertrophy” group indicated an aesthetic reason (labial asymmetry). In the “moderate hypertrophy” group 6 patients indicated psychologic reasons, 25 indicated functional reasons, and 35 indicated aesthetic reasons. In the “severe hypertrophy” group patients indicated all 3 factors—functional, aesthetic, and psychologic.

The labioplasty procedure was carried out in a median of 35 min, and there were no intraoperative complications. The only complication noted during the early postoperative period was minimal suture dehiscence that did not require further suture \((n=3 \text{ [5.4%]})\). Two patients experienced pain in the operative area, which subsided after 5 and 7 days, respectively, with oral analgesia. Patients referred to postoperative pain as “mild to moderate,” “tolerable,” or “minimal” on the proposed analgesic scale. There were no reports of pain or other sensitivity disorders affecting the labia area during follow-up, and there were no reports of surgical wound infection.

The 5 patients who only indicated satisfaction in their answers to the general questions addressed in the questionnaire had the same degree of satisfaction regarding the aesthetic factor (Table 2).

Figs. 2–4 show labia minora before and after correction surgery.

4. Discussion

Whereas Radman [9] sets hypertrophy at more than 5 cm and Rouzier [7] at more than 4 cm, asymptomatic asymmetries are why many women request correction for labia minora often measuring less
than 5 or even 4 cm. On the basis of their experience, the authors of the present report created a classification for their patients, the Ricci and Pardo classification of labia minora hypertrophy for surgical correction.

In a review published in 1949, labia minora measured less than 2 cm in 87.7% of 2981 women, 2 cm in 4.9%, 3 cm in 5.7%, 4 to 5 cm in 1.1%, and more than 5 cm in 0.7% [10].

There are few studies involving an important number of women [10]. The largest recent report, published in 2000 by Rouzier et al. [7], presents 163 cases, and most available publications reports on 1 or a few cases [2–6,11,12]. Yet, all works emphasize the importance for women of labia minora asymmetry and hypertrophy. The condition often lowers women’s self-esteem and impairs couples’ relationships. Moreover, 2 of the main complaints are discomfort while wearing tight-fitting sports clothes, fear that a partner, physician, or sports mate could notice the labial hypertrophy.

In the present series, the aesthetic factor was involved in 96% of cases, whether associated or not with others factors, and therefore should not be disregarded.

The laser labioplasty approach described in this report is based on a technique learned from Dr. David Matlock at the Vaginal Laser Rejuvenation Institute of Los Angeles, Calif., USA. This yet unpublished technique allows for less blood loss and thus a cleaner operating field, which facilitates creating symmetry and avoiding overcorrection.

In the experience of the authors, laser labioplasty is easier to perform than conventional cautery or cold-knife excision, as the vast majority of publications describe elliptical and parallel incisions on labia minora to remove excessive tissue, with further approximation using fine interrupted sutures [2,4–6]. However, a study designed to compare techniques is needed to verify the authors’ observation.

The nearly complete absence of blood loss achieved with the laser is a remarkable advantage. Besides allowing to work in good hemostatic conditions, it prevents hematomata and hemorrhage at this highly vascularized site during the early postoperative period.

In their study, Rouzier et al. [7] reported a 7% dehiscence rate as the only observed complication. However, this rate of complications did not account for cases of dissatisfaction or of lower degrees of satisfaction. A similar rate of suture dehiscence (5.4%) was observed in the present series, along with 2 cases of transient pain at the labioplasty site. The pain receded in 5 and 7 days, respectively, and was described by the patients as mild to moderate, with good response to oral analgesics.

Some authors have suggested the possibility of a sensitive disorder of labia minora after labioplasty. Among others, in the 1970s, Sommerova, Malinovsky, and colleagues [13–15] studied the nerve endings of hypertrophic labia minora in women aged between 18 and 69 years, and found no differences between these and labia minora of normal size or the labia minora of women of different ages. These authors concluded that an interindividual variability could affect sensitivity in the region.

In conclusion, the laser method for labioplasty is associated with a high degree of patient satisfaction, and it can be combined with other gynecologic surgical interventions without an increase in the risk of complications (Figs. 2–4).

Figure 4  (A) Asymmetry of labia minora in 32-year-old patient. Aesthetic factor. (B) After labioplasty aspect. The patient expressed satisfaction.
References


