Surgical treatment of clitoral phimosis caused by lichen sclerosis

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OBJECTIVE: The purpose of this study was to examine surgical outcomes for the correction of clitoral phimosis caused by lichen sclerosis.

STUDY DESIGN: Eight women with lichen sclerosis underwent surgical repair of clitoral phimosis. They were assessed 12-36 months postoperatively by an independent research assistant. A questionnaire was used to assess the patients' perception of surgical success.

RESULTS: Patients reported that they were either very satisfied (88%) or satisfied (12%) with the results of their surgery. All 4 women who had decreased clitoral sensation before surgery regained clitoral sensation and their ability to achieve orgasm.

CONCLUSION: This study demonstrates that surgery for clitoral phimosis caused by lichen sclerosis can be performed to restore clitoral sensation and vulvar anatomy. There were few complications and a high degree of patient satisfaction with the procedure.

Key words: clitoris, lichen sclerosis, phimosis, vulva

Lichen sclerosis is a lymphocyte-mediated inflammatory dermatitis that most commonly occurs in the anogenital epithelium. Although the exact prevalence of lichen sclerosis is not known, it has been reported that it affects 1 in 660 British women and approximately 1 in 70 women in a general gynecology private practice in the United States. The chronic inflammation associated with this condition often leads to scarring and distortion of the vulvar architecture. Frequently, scar tissue forms between the clitoral prepuce and the glans clitoris leading to “burying” or “phimosis” of the clitoris. Phimosis of the clitoris is often problematic because smegma can accumulate in the space between the clitoris and prepuce that can cause a smegmatic pseudocyst. These pseudocysts can become inflamed or infected. In addition, clitoral phimosis frequently causes loss of clitoral sensitivity, which may cause secondary anorgasmia. Lastly, women with clitoral phimosis often complain of psychologic trauma caused by the distortion of their vulvar architecture and a perceived diminution of their sexuality or femininity.

In the past, surgery for lichen sclerosis was reserved for patients in whom there was associated high-grade vulvar intraepithelial neoplasia or carcinoma. Surgery to correct architectural changes such as narrowing of the introitus or clitoral phimosis was contraindicated because of a process known as the Koebner phenomenon. Koebnerization in lichen sclerosis is a pathologic process in which normal skin becomes sclerotic after it is injured or traumatized. Thus, surgery can lead to even more vulvar scarring.

Treatment with topical ultrapotent topical corticosteroids such as clobetasol propionate has changed the management of lichen sclerosis. In addition to effectively treating symptoms, ultrapotent topical corticosteroids reverse the underlying histopathologic changes of lichen sclerosis. By reversing the underlying chronic lichenoid inflammation, further scarring of the vulva is prevented. Therefore, by applying ultrapotent topical corticosteroids after surgery, Koebnerization theoretically could be prevented and surgery to correct scarring from lichen sclerosis could now be successfully performed. The purpose of this study was to assess patient satisfaction with surgery to correct clitoral phimosis, as well as to determine potential complications associated with this procedure.

MATERIALS AND METHODS Eight women with biopsy-proven lichen sclerosis had surgery to correct clitoral phimosis between November 2002 and March 2005. Women were considered candidates for surgery if their lichen sclerosis was in complete remission as assessed by a gynecologist who specializes in the treatment of vulvar diseases. Objective and subjective criteria were to diagnose remission: there had to be complete resolution of lichenification and inflammation, and patients had to have resolution of their pruritis and burning. Women underwent surgery for the fol-
lowing indications: recurrent pseudo-
cyst (n = 2), decreased clitoral sensation
(n = 4), and emotional distress caused
by the distortion of their vulvar archite-
cture and a perceived diminution of sex-
uality and femininity because of the cli-
toral phimosis (n = 2).

The procedure performed was as fol-
lows: a lacrimal duct probe was inserted
between the clitoris and the prepuce and
was used to bluntly lyse any adhesions
(Figure 3). A dorsal incision approxi-
mately 5 mm in length was then made in
the prepuce with Iris scissors and any re-
main ing adhesions were then lysed with
the lacrimal duct probe (Figure 4). He-
mostasis was obtained by applying direct
pressure or with electrocautery. No tis-
sue was excised during the procedure.
Postoperatively, the patients applied clo-
betasol 0.05% ointment daily to the sur-
gical site to prevent Koebnerization. Af-
ter the surgical site healed, patients
decreased the frequency of clobetasol ap-
lication to twice weekly.

The primary measure of success in this
study was overall patient satisfaction
with surgery. Additional outcome mea-
surements included improvement in cli-
toral sensation, improvement in ability
to achieve orgasm, occurrence of post-
operative complications, and recurrence
of clitoral phimosis after surgery.

Patients were contacted between 12
and 36 months after their surgery (me-
dian 20 months). Patients were con-
tacted by an independent research assis-
tant via telephone. An institutional
review board approved the 7-item ques-
tionnaire written by the authors for the
purposes of this study (Figure 5) was ad-
ministered by the research assistant after
obtaining informed consent. Partici-
pants were assured that their responses
would be confidential, and that their
surgeon would be blinded to individ-
ual responses. In addition, each patient
was examined by the gynecologic sur-
geon (A.T.G.) at least 1 time between
12 and 36 months after their surgery to
assess if there was recurrence of phi-
mosis. A thorough chart review was
performed after contacting individual
patients to determine demographic
data, operative indications, and post-
operative complications.

**Results**
The age range was 21-59 years (median
35 years) with a median parity of 2. All
were white and 3 were postmenopausal.
Of the 8 women who underwent surgery,
1 (12%) “was satisfied,” and 7 (88%) were
“very satisfied” with the results of
their surgery (Table). All 8 women who had surgery would recommend the same surgery to another woman with similar symptoms. All 4 women who had decreased clitoral sensation before surgery had significant improvement in sensitivity and improved ability to achieve orgasm after surgery. Only 1 woman who had surgery for decreased clitoral sensation, had partial recurrence of clitoral phimosis; she had stopped using clobetasol for 3 months because she was hospitalized for an unrelated medical problem.

**Comment**

A National Library of Medicine PubMed literature search using the terms *lichen sclerosus, clitoris, phimosis, clitoral phimosis, and smegmatic pseudocyst* revealed only 1 case report discussing surgery for clitoral phimosis. In that report, a 24-year-old patient with insulin-dependent diabetes presented with a smegmatic pseudocyst. Although the surgery was successful, the subject did not have lichen sclerosus.

Though this study is limited by small sample size, it indicates that there is a high degree of satisfaction with surgery for clitoral phimosis (Figure 6). An additional study by Rouzier et al showed that perineoplasty in women with introital stenosis caused by lichen sclerosus had an 86% success rate. The results of these studies suggest that surgery for lichen sclerosus, in combination with postoperative ultrapotent topical corticosteroids, can be performed without an increased risk of Koebnerization and can significantly improve sexual function. In addition, although there is the theoretical risk that postoperative corticosteroids can increase the risk of wound dehiscence and postoperative infection, neither complication occurred in these 8 women.

This study was limited because it did not incorporate validated measures of assessing sexual function such the Female Sexual Function Index and Female Sexual Distress Scale, preoperatively and postoperatively. This study also has the limitations inherent to a retrospective study such as a paucity of presurgical data and potential errors in data abstraction. In addition, patients were assessed via telephone, which may have altered the way in which they responded to the questionnaire. Furthermore, there are no standardized methods for assessing these patients that makes the evaluation of surgical outcomes challenging. In addition, in future studies, age-matched controls with clitoral phimosis who do not undergo surgery should be compared with women who have surgery.