

The Effect of DBD Plasma Therapy on Wound Healing after Labiaplasty

Abstract

Background: Labiaplasty is designed to reduce the size of the labia minora. Women opt for labiaplasty surgery for a variety of reasons, including pain from twisting and tugging of the labia when riding a bike or during intercourse, itching, irritation and self-consciousness. The goal of the procedure is usually to reduce the labia minora so that they don't hang below the hair-bearing labia majora. A labiaplasty may be performed to reduce asymmetry when one is longer than the other, or, more commonly, to reduce the length of both labia so that the labia no longer cause discomfort or fall out of a bathing suit. The most common type of labiaplasty across the surgical specialties is the trim procedure, in which the extra tissue is removed and sewn up directly, because this technique is easiest to perform. The technical disadvantages of the labial-edge resection technique are the loss of the natural rugosity (wrinkles) of the labia minora free edges, thus, aesthetically, it produces an unnatural appearance to the vulva, and also presents a greater risk of damaging the pertinent nerve endings. Moreover, there also exists the possibility of everting (turning outwards) the inner lining of the labia, which then makes visible the normally hidden internal, pink labial tissues.

Introduction

Possible risks of labiaplasty: The possible risks include those related to anesthesia,

- bleeding or hematoma (a collection of blood)
- Infection
- Poor scarring, poor incision placement or overactive

Semi Experimental Article

Bahareh Arbabi*

Department of Obstetrics and Gynecology, Milad hospital, Isfahan, Iran

*Correspondence: Bahareh Arbabi, Department of Obstetrics and Gynecology, Milad Hospital, Isfahan, Iran; Email: bahareharbabi77@gmail.com

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scarring (it can take 12 to 18 months for scars to fully mature and appear less pink and flat)

- Reduced or increased sensitivity
- Asymmetry

The most common complication is over-resection. While some women desire an aggressive reduction, this can result in chronic dryness, scarring at or near the vaginal opening, and pain during intercourse [1-7]. In addition, some of the common complications of labiaplasty include redness, swelling, itching, discharge, and especially dehiscence after labiaplasty, which are often annoying.

A surgeon needs to control complications. DBD (dielectric barrier discharge) plasma therapy is a typical non-equilibrium high-pressure ac gas discharge which can be a less complicated and safe method in controlling skin complications and accelerating wound healing. DBD plasma therapy was used in the present study for patients who underwent labiaplasty and its effect on the mentioned complications was investigated [8,9].

Study Questions

- How many patients who undergo labiaplasty have wound redness after DBD plasma therapy?
- How many participants have wound secretions after DBD plasma therapy?
- How many patients have a feeling of itching after DBD plasma therapy?
- How many wounds will have dehiscence after DBD plasma therapy?

Methods

The operation site was assessed for redness, secretion and itching on days 7 and 14, and the wound was reassessed for dehiscence until day 21.

Participants

In this quasi-experimental study, 40 patients aged 30-40 who had undergone trim labiaplasty surgery were recruited.

Inclusion Criteria

None of the participants had medical history, smoking, or medication.

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Procedure

DBD plasma therapy was performed on days 3, 7 and 10 after the surgery. Each session lasted for 10 minutes. The operation site was assessed for redness, secretion and itching on days 7 and 14, and the wound was reassessed for dehiscence until day 21 [10-14].

Results

Level of secretions

Following the DBD plasma therapy that started on the 3rd day after the labiaplasty and was repeated on the 7th and 10th days, the wound assessment on the 7th day showed that 2.5% of the women's wounds had high level of secretions, 20% had moderate level of secretions, and 77% had low secretion, while on the 14th day, these values reached zero, 5% and 95%, respectively; and these changes were statistically significant ($P < 0.05$) [15,16].

Conclusion

Considering the results of this study, DBD plasma therapy can help the surgeon control post-operative wound complications, improve women's health and subsequently improve their satisfaction with the changes made. Therefore, the use of DBD after surgery can make labiaplasty a satisfactory experience for both the surgeon and the patient.

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