

**GYNAECOLOGY****A mobile aerosol cryotherapy device (Histofreezer) for treatment of cervical contact bleeding: a pilot study**

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*Department of Obstetrics and Gynecology, Rabin Medical Center, Petah Tikva and Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel***Summary**

This study aims to evaluate the efficacy of the Histofreezer (a mobile aerosol cryotherapy device) treatment for women with cervical contact bleeding. Ten healthy women aged 22–50 years referred to our outpatient colposcopy clinic for recurrent postcoital or contact bleeding, and who suffered from mild to wide ectropion with bleeding on contact were studied. All women had a normal pelvic examination and ultrasound and a normal colposcopy and PAP smear. They were treated with the Histofreezer, which freezes the tissue to a temperature of  $-55^{\circ}\text{C}$ . A picture of the cervix was taken by a cervical camera before, after the procedure and during follow-up visits 4 and 8 weeks afterwards. There was a complete resolution of bleeding ectropion with a good healing of squamous metaplasia in seven patients. Two women showed partial improvement. Based on this initial study, this short and simple ambulatory treatment shows good results, both subjectively and on follow-up colposcopy.

**Introduction**

Cervical bleeding after copulation or other contact with the cervix is relatively common and may result from a wide range of non-cancer-related pathologies, such as cervical polyps, various metaplastic states, erosions and cervicitis (Disaia, 1994). Although usually neglected these disorders require treatment, especially because of their potential for malignant transformation. Medical advice is usually sought when the woman or her partner find the bleeding bothersome or religious law forbids sexual contact during or after cervical bleeding. For example, in Orthodox Judaism, a married woman may have sexual intercourse only when their twice-daily self-examination with a white cotton cloth indicates that they have been 'clean' for 7 days after menstruation ('conclusion in purity' examination) (Kahana, 1997). Each time there is cervical bleeding, from whatever cause, the 7-day count begins anew and coitus is postponed. This may pose a difficult problem within the marriage.

Our clinic serves a large Jewish Orthodox population, and these women often come to our clinic because of cervical contact bleeding. The aim of the present study was to examine the efficacy of treatment of cervical bleeding with the Histofreezer, a simple, mobile aerosol cryotherapy device that has been used successfully for

the treatment of various skin lesions and genital warts (Gaydos *et al.*, 1998).

**Materials and Methods**

The study sample consisted of 10 healthy women aged 22–50 years (average, 34.5 years) referred to the outpatient colposcopy clinic of Rabin Medical Center because of recurrent postcoital or contact bleeding a week or more from the end of menstruation. The local ethics committee approved the study protocol, and all women signed a written informed consent form. Complete gynaecological examination, including pelvic examination, pelvic ultrasound, colposcopy, PAP smear and cervical cultures, was performed in all cases to exclude any other pathological condition that could account for the bleeding. All women had a mild to wide ectropion bleeding on contact (Figure 1a).

The Histofreezer (produced in the Netherlands for OraSure Inc., USA) is an aerosol containing liquid dimethylether and propane, which freezes tissue on contact to a temperature of  $-55^{\circ}\text{C}$  (Figure 1b). The probe was visualised directly through a speculum for its precise localisation using a long probe with a sponge, applying it for 20–40 seconds. The women were allowed home after 15 minutes. The women were treated during the first week after cessation of menses in order to exclude pregnancy. A picture of the cervix was taken with a cervical camera before and after the procedure. Follow-up visits conducted 4 and 8 weeks after the procedure included bimanual examination, colposcopy with cervical photograph, PAP smear and a subjective report of the patient.

**Results**

Nine patients reported a marked lessening or disappearance of the contact bleeding. Colposcopy showed complete resolution of bleeding ectropion with good healing of squamous metaplasia in seven patients, partial resolution in two patients and no improvement in one patient.

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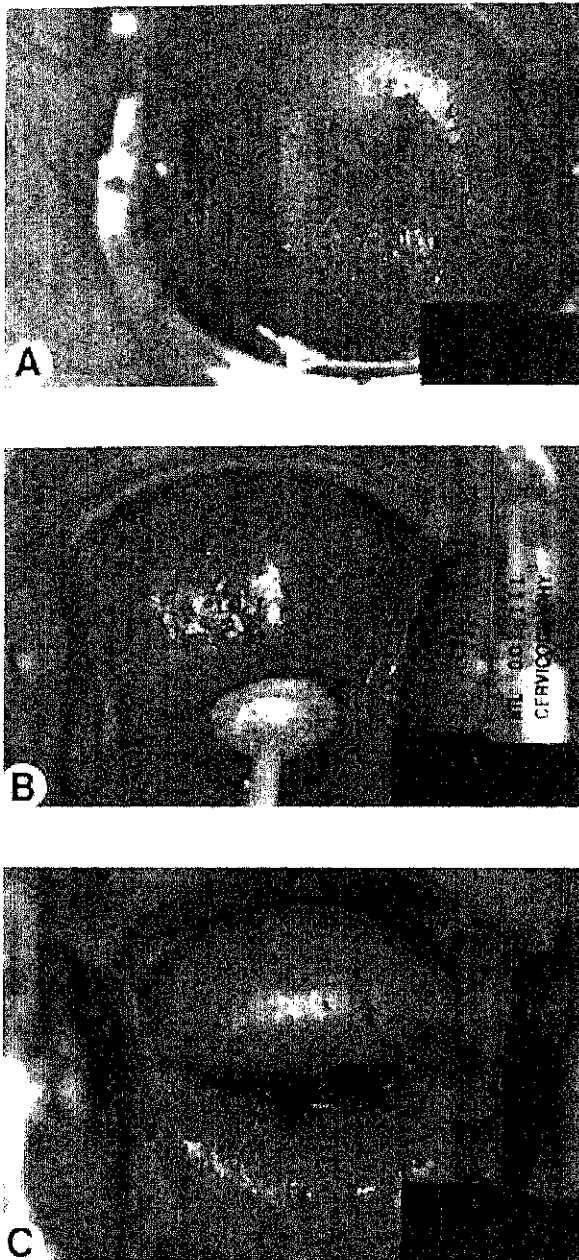


Figure 1. Cervical ectropion before treatment (A), Histofreezer probe application, (B) and 8 weeks afterwards, (C).

No complications, such as increased bleeding, infection, fever or pelvic cramps, were noted immediately after treatment or on follow-up. There were no pathological findings on follow-up.

### Discussion

Several methods are currently available to treat post-coital or contact bleeding and spotting due to benign cervical lesions such as ectropion, erosion or cervicitis. These include local coagulative techniques (laser and electrocoagulator), cryosurgery, hyperthermic treatment (Kaplan *et al.*, 1995) and microwave tissue coagulation (Song *et al.*, 1994). Some may be performed in outpatient clinics without anaesthesia or with only minimal analgesia, but all require special equipment.

The Histofreezer is a mobile aerosol device for the application of superficial cryotherapy on an ambulatory basis without anaesthesia or analgesia. Treatment is rapid and requires no special equipment. Importantly, there is no effect on the endocervix. According to our experience, albeit on a small sample of patients, the Histofreezer effectively alleviates postcoital and contact cervical bleeding, as determined clinically by follow-up colposcopy and subjectively. Most of our sample consisted of Jewish Orthodox women, but other populations may benefit as well. We suggest repeating the procedure in failed cases after a 3-month interval.

### References

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