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EFFECTIVENESS OF CRYODESTRUCTION FOR CERVICAL PATHOLOGIES

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Abstract
Cervical cancer in most cases does not occur on healthy mucous membranes, but against the background of precancerous conditions, such as grade 1, 2, 3 cervical dysplasia. They themselves are not malignant, but under certain conditions they are highly likely to provoke the development of oncological pathology. Precancer of varying severity is found in 30-50% of women aged 25-40 years; the growth of this pathology in women under 30 years of age is 2.2% per year. Precancerous lesions must be treated to reduce the risk of developing cancer.

Keywords: cervical dysplasia, precancerous lesions, cryodestruction, liquid nitrogen.

Introduction

Pathology of the cervix occupies the leading place one hundred in the structure of outpatient gynecological morbidity [3,5,11]. Cervical cancer is represented by represents not only medical, but also social economic problem, since it is leftism does not tend to decrease, and the tumor mainly affects working people capable age.

That is why in solving this problem the main task is to find and improve methods of prevention, timely detection and treatment of precancerous diseases of the cervix, as well as rehabilitation women [2, 9,12].

Currently, significant success in the treatment of benign diseases of the cervix has been achieved due to the widespread introduction of the cryogenic method. Its use in clinical practice has reduced the incidence of complications compared to other methods of treating cervical pathology [8]. Cryodestruction is called the most a physiological way of destroying biological tissue. It is important that during its implementation there is no thermal denaturation of proteins and nucleic acids. Destruction here is associated with other mechanisms and is mainly due to changes occurring in the intra- and intercellular fluid [3].

V.I. Kochenov believed that cryotherapy should be classified as a radical therapeutic treatment with surgical consequences. This method combines the radicalism of therapy for background and precancerous processes with stimulation of the regenerative properties of tissues [6].

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From the literature it follows that the size of tissue damage during cryosurgery can be programmed by the choice of tip, exposure duration, and number of procedures [1]. These parameters can be taken as a basis when using cryogenic exposure for diseases of the cervix. Additional advantages of the cryogenic method are painlessness and bloodlessness, the possibility of carrying out the procedure at any phase of the menstrual cycle, safety for the patient and the doctor, low cost of equipment, and also the fact that cryotherapy does not cause sclerosis and deformation of the cervix, and does not have a negative effect on the process of its opening in time of birth [3, 8, 10]. One of the positive properties of cryotherapy is associated with its immunostimulating effect. Devitalized by cold, pathologically altered tissue remains in contact with the body. The consequence of this is the stimulation of a specific immune response, which triggers the mechanism of antitumor, antiviral, antimicrobial, and antifungal immunity [3, 6,12]. Healing of cryosurgical wounds occurs painlessly and absolutely bloodlessly. Rejection of the scab occurs as the epithelium regenerates on all sides around the destroyed lesion. And in small areas, cryonecrosis comes off entirely, and the restored mucous membrane appears under it [6,11,13]. Analysis of literature data shows that there are no clearly defined indications and contraindications for the use of the cryosurgical method, and there are no guidelines for its use in various pathologies. General and local reactions of the body during cryogenic exposure to the cervix have been studied relatively little. Long-term effects have not been sufficiently assessed and studied results [4,14].

The purpose of this work was to determine the effectiveness of cryodestruction for various benign pathological conditions of the cervix. An examination and treatment by cryosurgery of pathological changes in the cervix were carried out in 78 women aged 20 to 55 years who applied to the Tashkent city branch of the Republican Specialized Scientific and Practical Medical Center of Oncology and Radiology.

Materials and Methods

Treatment was carried out using a portable autonomous open-type cryoapparatus "CryoFrost" with an adjustable supply of liquid nitrogen and a set of cryoapplicators with different shapes of the working surface. At a surface temperature of the tip of –70°C, cryodestruction occurs in the superficial layers of the cervical epithelium (at a depth of 2 to 3 mm), at a temperature of –80 to –90°C – at a depth of 5–6 mm, at a temperature of –90 to –100°C – at a depth of 6–8 mm.

1 - picture. Cryoapparatus "CryoFrost".

The patients were divided into 2 groups: Group I consists of 50 patients with CIN I of the cervix. Group II included 45 patients with an established diagnosis of CIN II of the cervix. All patients

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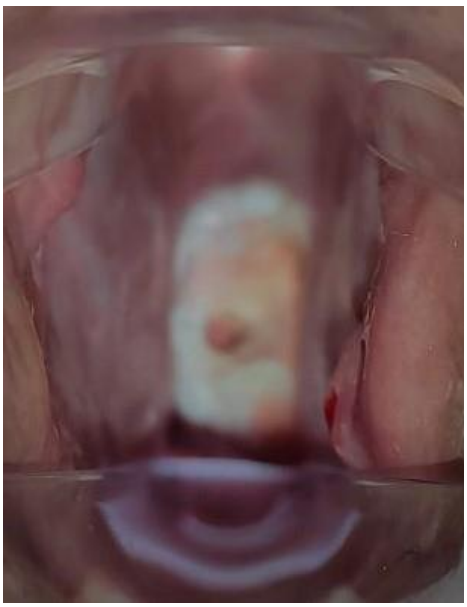
underwent cervical biopsy before treatment and the diagnosis was established based on histological examination.

Results

When studying the results of liquid cytology, in group I, 43 patients (86%) showed no intraepithelial damage and malignancy (NILM) ($p < 0.01$). The remaining 7 patients showed atrophy with inflammation of the cervix (14%). In the second group of 45 patients, 37 (82.2%) achieved normal epithelial coverage, 5 patients (11.1%) had grade I dysplasia (LSIL), 3 patients (6.6%) had atypical cells of unknown origin (ASCUS)). These 8 patients underwent repeated cryodestruction with liquid nitrogen until a satisfactory conclusion of the control cervical smear was obtained.



2 – pic. Cervical erosion before cryodestruction. 3 – pic. Cervix after cryodestruction

Wound healing after cryotherapy occurs with exudation phenomena. After cryocoagulation, liquefaction necrosis forms in the tissues, and therefore, by the end of the first day, abundant serous watery discharge (hydrorrhea) appears from the genital tract, which causes great inconvenience. This is one of the negative properties of this method. These discharges reached a maximum by the 4th–6th day and in most observations ended by the 17th–25th day after exposure.

Conclusion

Thus, cryosurgery is an effective, safe and uncomplicated method for practical use, which opens up great prospects in the treatment of patients with localized pathological processes in anatomically accessible areas, such as the cervix [8]. The effectiveness of treatment of benign diseases of the cervix depends on adequate examination of the patient, optimally selected cryoapplicator and exposure time, as well as management of the postoperative period. The use of the cryogenic method makes it possible to restore the functional usefulness of tissues in patients with benign diseases of the cervix. The widespread introduction of the cryogenic method into

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clinical practice will certainly help improve the effectiveness of treatment of patients with benign, and subsequently malignant (with minor invasion) diseases of the cervix, and, if necessary, during pregnancy.

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