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Original Research Article

A Hospital Based Comparative Assessment of Cryotherapy and Electrocautary in Treatment of Cervical Erosion

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Abstract

Aim: Comparative study of cryotherapy and electrocautery as therapeutic options for cervical erosion.

Material and Methods: This was a prospective study carried out in 100 patients attending Department of Obstetrics & Gynaecology Jawaharlal Nehru medical college & Hospital, Bhagalpur, Bihar, India, for cervical erosion. Patient were allocated in two groups. Group A patients underwent electrocautary and Group B underwent cryotherapy. 50 patients were randomly allocated in each group. Female of reproductive age group and only inflammatory changes in pap smear were included in this study.

Results: Majority of the patients presented with vaginal discharge (group A 16 and group B 9). Pelvic pain was a complaint in 5 patients in group A and 4 patients in group B. Menstural complaints included dysmenorrhoea, irregular menses, postcoital and intermenstural spotting and oligomenorrhoea. They were 4 in group A and 2 in group B. multiple complaints means patients presented with more than one from above complaints. Most common complaint intra operative is discomfort. 7 patients of group A experienced discomfort while 4 patients of group B experienced discomfort. Backache was experienced by one patient of cryotherapy group and one patient of electrocautary group experienced bleeding. Both groups were compared by T test, p value >0.05 so the difference is not statistically significant. Most common immediate postoperative complaint was pelvic pain. Three Cryotherapy patients experienced pelvic pain. Two electrocautary patients experienced discomfort and one patient experienced bleeding after procedure.

Conclusion: Though in short term follow up electrocautry seems to be better than cryocautry. But if seen in long term follow up both are equally good.

Key Words: Cryotherapy, Electrocautery, Cervical erosion

Introduction

Cervical erosion, also known as cervical ectopy or ectropion, is a common gynecological condition characterized by the replacement of the stratified squamous epithelium of the ectocervix with columnar epithelium. This condition often manifests as an erythematous, granular area around the cervical os and can be asymptomatic or associated with symptoms such as postcoital bleeding, vaginal discharge, and dyspareunia. While cervical erosion is often benign and self-limiting, symptomatic cases or those associated with high-risk human papillomavirus (HPV) infections may require intervention. Among the various treatment modalities, cryotherapy and electrocautery have emerged as prominent options. This introduction aims to provide an overview of these treatments, comparing their efficacy, safety, and outcomes based on recent literature. [1] Cryotherapy, also known as cryosurgery or cryoablation, is a minimally invasive procedure that utilizes extreme cold to destroy abnormal cervical tissue. Liquid nitrogen or carbon dioxide is typically used to freeze the affected tissue, causing cellular destruction through ice crystal formation, protein denaturation, and vascular stasis. Cryotherapy is favored for its simplicity, cost-effectiveness, and minimal requirement for anesthesia or advanced surgical skills. [2] Moreover, cryotherapy has been shown to reduce the incidence of recurrent cervical erosion, particularly in cases associated with chronic

inflammation or persistent HPV infection. The safety profile of cryotherapy is generally favorable. Common side effects include mild cramping, watery vaginal discharge, and transient discomfort, which are typically self-limiting. Serious complications such as cervical stenosis, infection, or heavy bleeding are rare. Importantly, cryotherapy does not appear to adversely affect fertility or future pregnancies, making it an attractive option for women of reproductive age. [3] Electrocautery, also known as diathermy or thermal coagulation, involves the use of electric current to generate heat and coagulate abnormal cervical tissue. This technique is effective in creating a controlled depth of tissue destruction, promoting hemostasis, and facilitating epithelial regeneration. Electrocautery can be performed using various devices, including monopolar and bipolar diathermy, and is often performed under local anesthesia. [4] Recent advancements in electrocautery techniques have enhanced their precision and outcomes. Additionally, electrocautery offers the advantage of immediate hemostasis, which is particularly beneficial in cases with significant cervical bleeding or vascular abnormalities. Despite its efficacy, electrocautery is associated with certain risks and complications. These include pain during and after the procedure, risk of cervical stenosis, and potential for thermal injury to adjacent tissues. However, advancements in technique and equipment have significantly reduced these risks, making electrocautery a viable option for many patients. [5]

Material and Methods

This was a prospective study carried out in 100 patients attending Department of Obstetrics & Gynaecology Jawaharlal Nehru medical college & Hospital, Bhagalpur, Bihar, India for one year, for cervical erosion. Patient were allocated in two groups. Group A patients underwent electrocautary and Group B underwent cryotherapy. 50 patients were randomly allocated in each group.

Inclusion Criteria

- Female of reproductive age group
- Only inflammatory changes in pap smear
- Willing for follow up

Exclusion Criteria:

- Pap smear with premalignant or malignant changes
- Pregnant women
- Patients with abnormal cytology
- Large lesions.

Study was approved by ethical committee of institute. A written valid consent was taken from patients after explaining the study and procedures. At first visit pelvic examination was done, Pap smear taken and single course of antibiotics was given to both the groups. Data was collected with pre tested questionnaire. Data includes Name, age, socio-economic status, organic diseases, detailed obstetrics and menstrual history. Previous history and treatment of white discharge was taken and Perspeculumand Pervaginal examination was done. All patients were treated on outpatient basis in minor OT. Cautery was done 2-3 days after cessation of menstruation. Pressure in the tank kept was 40 kg/cm2 for cryocautery and time for freezing was 3 minutes. Electrocautery was done at medium current. Patients were followed up 3-4 days after cessation of menstruation at 4- 6 weeks and 12-14 weeks. Both the groups were analysed with respect to intraoperative, immediate post operative and follow up complications. Data was analysed using appropriate statistical tests.

Results

Patients were treated by two methods electrocautary and cryotherapy. Group A received electrocautary and group B was treated by cryotherapy. Mean age of the patients in group A was 34.36±2.41 years with range from 28-40 years. Mean age in group B was 33.27±3.1 years with age ranging from 27-38 years. Mean parity in group A was 2.5 with range from 2-5 while in group B mean parity was 2.8 with range of 2-6. Table 1 shows symptoms with which patients presented to the gynaecologist. Majority of the patients presented with vaginal discharge (group A 16 and group B 9). Pelvic pain was a complaint in 5 patients in group A and 4 patients in group B. Menstural complaints included dysmenorrhoea, irregular menses, postcoital and intermenstural spotting and oligomenorrhoea. They were 4 in group A and 2 in group B. multiple complaints means patients presented with more than one from above complaints. Most common complaint intra operative is discomfort. 7 patients of group A experienced discomfort while 4 patients of group B experienced discomfort. Backache was experienced by one patient of cryotherapy group and one patient of electrocautary group experienced bleeding. Both groups were compared by T test, p value >0.05 so the difference is not statistically significant. Most common immediate postoperative complaint was pelvic pain. Three Cryotherapy patients experienced pelvic pain. Two electrocautary patients experienced discomfort and one patient experienced bleeding after procedure. Table 4 shows comparison of patients of both the groups according to symptoms after 4 weeks. Erosion was most common complaint among cryotherapy group (14 patients). Erosion was seen in five patients of group A. Intermenstrual bleeding was observed in two patients of electrocautary group. Backache was observed in electrocautary group. Watery discharge was observed in 4 patients of cryotherapy. This difference in post operative complication was statistically not significant (p>0.05).

Table 1: Comparison of patients of Group A and Group B according to symptoms before treatment

Symptoms	Group A	Group B
Backache	01	02
Burning micturition	01	02
Vaginal Discharge	16	09
Dyspaurenia	03	03
Menstrual complaints	04	02
Pelvic pain	05	04
Multiple complaints	20	28

Table 2: Comparison of patients of Group A and Group B according to intra operative complaints

Intraoperative complaints	Group A	Group B
Backache	00	01
Bleeding	01	00
Apprehension/discomfort	07	04
Pelvic pain	05	04

Table 3: Comparison of patients of Group A and Group B according to immediate postoperative complaints

Immediate post op complaints	Group A	Group B
Backache	00	00
Bleeding	00	01
Apprehension/discomfort	02	00
Pelvic pain	00	03

Table 4: Comparison of patients of Group A and Group B according to symptoms after 4 weeks

Symptom after 4 weeks	Group A	Group B
Backache	03	00
Burning micturition	00	00
Discharge	00	04
Erosion	05	14
Intermenstrual spotting	02	00
Pelvic pain	00	01

Discussion

Group A and group B were comparable according to age and parity. Mean age of the patients in group A was 34.36±2.41 years. Mean age in group B was 33.27±3.1 years. Mean parity in group A was 2.5 while in group B mean parity was 2.8. Similarly groups were comparable in Monica Jindal et al [6] and Shriraj Katakdhond et al [7] where The largest number of patients belonged to age group between 26-30 years followed by 31- 35 years. Majority of the patients presented with vaginal discharge followed by pelvic pain. Similar results were seen in Shriraj Katakdhond et al [7] where Abnormal vaginal discharge was the commonest complaint. Followed by pelvic or abdominal discomfort. Most common complaint intra operative is discomfort. [7] patients of group A experienced discomfort while 4 patients of group B experienced discomfort. that is similar to Chia Koo Lee.et al [8]. Bleeding was seen in one patient treated with electrocautery that was controlled with vaginal packing. Difference of intraoperative complaints was not statistically significant. Similar results were observed in Monica Jindal et al [6] Most common immediate postoperative complaint was pelvic pain. Three Cryotherapy patients experienced pelvic pain. Two electrocautary patients experienced discomfort and one patient experienced bleeding aftercryo procedure. Erosion was most common complaint among cryotherapy group (14 patients). Backache was observed in electrocautary group. Watery discharge was observed in 4 patients of cryotherapy. Similarly Matanyi S observed in 1248 cervical cryosurgeries that side effects (hypogastric discomfort, vascular reactions) were negligible; profuse vaginal discharge was present following the treatment. [9] This difference in postoperative complication was statistically not significant ($p>0.05$).

Conclusion

Though in short term follow up electrocautry seems to be better than cryocautry. But if seen in long term follow up both are equally good.

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