

## Research Article

## Use of Trichloro acetic acid for chemical Ablation of Endometrium in Dysfunctional Uterine Bleeding

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**Abstract:** To evaluate the effectiveness of trichloro acetic acid (TCA) instillation in uterine cavity for the treatment of dysfunctional uterine bleeding. In this study, 50 patients with the complaints of irregular menstrual bleeding and without any organic cause were taken into consideration. After individually calculating the volume of TCA, it was instilled into the uterine cavity for chemically ablating the endometrium. After a follow-up of 1-3 months, out of 50 patients, 40% reported hypomenorrhoea and 8% reported amenorrhoea in contrast to 52% patients who complained of persistent symptoms. The study suggested that endometrial ablation with TCA is an efficient, well tolerated, quick and easily applied method with no specific side effects. However, to be used on regular basis, this method requires more randomised controlled trials.

**Keywords:** Dysfunctional uterine bleeding, trichloro acetic acid, chemical ablation, menorrhagia

### INTRODUCTION

Abnormal uterine bleeding represents one of the most common and complicated clinical problem encountered by a gynaecologist.

Dysfunctional uterine bleeding is defined as abnormal uterine bleeding in the absence of any organic disease and is therefore a diagnosis of exclusion [1]. It is ovulatory or anovulatory bleeding, diagnosed after; pregnancy, medication, iatrogenic causes, genital tract pathology, malignancy and systemic disease have been ruled out by appropriate investigation. Approx. 90% of DUB cases result from anovulation and 10% cases occur with ovulatory cycles. About 30% of all women report with abnormal vaginal bleeding.

Women who experience repetitive episodes might experience significant consequences like iron deficiency anaemia, hospitalization, blood transfusion or intravenous medications.

DUB can have substantial burden financially and can have adverse effects over quality of life. It can affect women's health both medically and socially.

Usual medical treatment of DUB includes many therapeutic modalities such as OCP's, progestones, danazole, GnRH agonists, progesterone releasing IUCD

etc. [2, 3]. Other alternative methods are hysteroscopic resection or/and ablation of endometrial cavity by Nd-YAG laser, roller ball or thermal. But these methods have been associated with high recurrence rates, need for expertise and serious complications like fluid overload, uterine perforation, infection, hemorrhage, thermal injuries and even death [4- 7].

For these reasons there has been continued research into alternative methods of endometrial ablation. In the interest of overcoming many of these disadvantages and risks, we introduced chemical ablation of endometrium without requiring special training [8]. TCA is one of our treatments of choice because the acid is not absorbed systemically and it is a topically applied chemical agent that denatures proteins and causes chemical cauterisation. It is usually applied for genital papillomas and has no systemic effect [9-11]. Therefore the primary objective of this study was to assess the efficacy of topically instilled TCA for endometrial ablation in patients with DUB.

### METHODS

The study was a prospective trial performed at the Obstetrics & Gynaecology Department of Government Medical College, Udaipur, Rajasthan. The study population consisted of 50 women aged 21 yrs or more with Hb less than 11 g/dl.

Inclusion criteria for selection of cases was:

- Patient refractory to medical treatment.
- Patient having irregular menstrual bleeding restricting them from daily activities.
- Patients with no desire for fertility.
- Patients having uterus with no gross pathology or organic lesions.
- Patients who refused surgical treatment or are unfit for the same.

Informed written consent was taken from all patients. Each patient underwent a routine history taking, physical examination and complete haemetological evaluation. Other investigations like BT, CT, Pap's smear, endometrial biopsy and USG were also taken into account. All the patients had documented benign endometrial histology without atypia.

One hour before the initiation of procedure the patient received NSAID's orally. Bladder was evacuated. Patient placed in dorso lithotomy position. Under local anaesthesia with 1% lignocaine HCl, cervix was dilated to insert the cannula of 3 mm diameter and 6 cm length and fixed with a clamp. The calculated volume of 50% v/v TCA was instilled from the cannula into the uterine cavity. TCA volume was calculated using the formula: - Volume of TCA (ml) = Length x Width x Thickness x 0.062. Length, width and thickness are approximate estimate of uterus in which the chemical is to be instilled and when no amount of material is released outside the uterus from the tubes.

Any leakage from the cervix was collected in a sponge surrounding the cervix to protect the cervix and vagina.

## RESULTS

Out of 50 patients, who were included in the study, according to Table-1 maximum no. of cases were in the age group of 31-40 (52%) yrs and minimum no. of cases in 51-60 (6%) yrs of age group. As per Table-2 the most common complaint was of menorrhagia (58%) followed by polymenorrhagia (24%). The duration of complaints was somewhere between 6 mths to 1 yr (42%). Majority of the women is child bearing age sought medical advice within the first 6 mths while pubertal and perimenopausal women waited till after about 1 yr. surprisingly most of the patients in present study had haemoglobin level between 8-10 gm% (82%). In our study we found that 58% patients having proliferative endometrium on histopathological analysis. The other common endometrial pattern was cystic glandular hyperplasia (22%) (Table-3).

Table-4 shows that according to the follow-up results after 3 mths, out of 50 patients, 20 patients (40%) presented with hypomenorrhoea and 4 patients (8%) presented with amenorrhoea while remaining (52%) patients persisted with the same complaints.

Follow-up results after 6 months showed 48% patients be satisfied with the procedure while 38% patients responded to other medical and surgical methods. Only 4% patients were lost to follow-up.

**Table-1: Age Wise Distribution**

| Age (in yrs) | Numbers   | Percentage    |
|--------------|-----------|---------------|
| 21 - 30      | 14        | 28.00         |
| 31 - 40      | 26        | 52.00         |
| 41 - 50      | 7         | 14.00         |
| 51 - 60      | 3         | 6.00          |
| <b>Total</b> | <b>50</b> | <b>100.00</b> |

**Table-2: Menstrual Complaints in DUB Cases**

| Complaints      | Numbers   | Percentage    |
|-----------------|-----------|---------------|
| Menorrhagia     | 29        | 58.00         |
| Metrorrhagia    | 9         | 18.0          |
| Polymenorrhagia | 12        | 24.00         |
| <b>Total</b>    | <b>50</b> | <b>100.00</b> |

**Table-3: Endometrial Pattern**

| Endometrial Pattern          | Numbers   | Percentage    |
|------------------------------|-----------|---------------|
| Atrophic                     | 1         | 2.00          |
| Cystic Glandular Hyperplasia | 11        | 22.00         |
| Mixed                        | 3         | 6.00          |
| Proliferative                | 29        | 58.00         |
| Secretory                    | 6         | 12.00         |
| <b>Total</b>                 | <b>50</b> | <b>100.00</b> |

**Table-4: Follow-up Result after 3-6 Months**

| Results             | Numbers   | Percentage    |
|---------------------|-----------|---------------|
| Amenorrhoea         | 4         | 8.00          |
| Hypermenorrhoea     | 20        | 40.00         |
| Persistent Symptoms | 26        | 52.00         |
| <b>Total</b>        | <b>50</b> | <b>100.00</b> |

**DISCUSSION**

In the literature, several methods have been tried for patients with functional menorrhagia. Destruction of endometrium with several physical and chemical agents has been reviewed and approved by FDA [12, 13].

Kumar & Bhakta [14] concluded that a wide range of treatment options for primary menorrhagia are available like antifibrinolytics, NSAIDs, progestogens, Danazol, GnRH analogues, levonorgestral releasing IUD's, D&C, TCRE, Endometrium ablation and hysterectomy.

Lethaby *et al.* [15] analyzed the safety and efficacy of various endometrial ablation techniques. The study showed no significant difference between treatment outcomes.

A Cochrane analysis was conducted by Lethaby *et al.* (2004) [16] to review the use of endometrial ablation v/s hysterectomy for treatment of menorrhagia and they concluded that both the procedures are effective and satisfaction rates are high.

Munro *et al.* [17] conducted a literature review of the various ablative techniques available. Out of these one was chemoablation requiring the use of topically administered caustic agents. This technique is currently under investigation.

Kucuk *et al.* [8] did a prospective clinical study of 90 patients with DUB that were refractory to medical management. Uterine chemoablation was offered to them and two groups were compared. In Group-I only TCA was used and in Group-II TCA + GnRH was used. The overall success rate did not differ significantly between the groups.

The present study was done to look for an alternative method of ablation which requires no specific training and is as effective as other ablation methods available for conservative management of DUB.

The ideal treatment method should be simple, easily applied, safe, efficient, accessible and individually accepted. It should also be cost effective. TCA instillation provides effective endometrial damage when correctly applied.

**CONCLUSION**

This study suggests that TCA is an efficient, well tolerated, quick, easily applied method which is cheap and requires no hospitalisation or specific training with minimal side effects. So it can be repeated without any serious complication. Patients were able to return to their daily chores soon after the procedure.

However to be used on regular basis more randomised controlled trials are needed to be done, to establish it as an alternate palliative treatment modality for DUB.

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