

TREATMENT ANALYSIS OF TRANSCERVICAL RESECTION OF ENDOMETRIUM (TCRE) IN HEAVY MENSTRUAL BLEEDING (HMB): A PROSPECTIVE MULTICENTRE THERAPEUTIC STUDY IN INDIAN SCENARIO

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ABSTRACT

Introduction: Heavy Menstrual Bleeding is a major factor affecting the quality of life and work performance in the perimenopausal women. In a country like India, especially in the rural settings, females hesitate to report to clinicians for gynecological problems like HMB, which affect their life significantly. And even if they do report, they are made to undergo unnecessary hysterectomies, despite there being alternative methods to manage such conditions.

Methods: We initiated a prospective therapeutic study from July 2012 to July 2014, where we screened 2106 patients with menorrhagia to study the role of TCRE in these patients, 179 patients fulfilled the inclusion criteria, gave consent and were operated with TCRE to study its outcomes. These patients were cases of Mirena failure or those not willing for Mirena, histopathological diagnosis of simple hyperplasia as well as cystoglandular hyperplasia and especially the poor-follow up cases and rural patients with HMB.

Results: TCRE has success rate of 85.5% as assessed by the patients' satisfaction after the procedure and improvement in their bleeding pattern. 11.2% reported with recurrence of menorrhagia, out of which 7.3% received exogenous progesterone therapy later, and were relieved with it, while 3.9% underwent a hysterectomy as the last resort. Haematometra was observed post-operatively in 3 cases (1.7%), Fluid overload was observed in 2 cases (1.1%) and 'False- passage' was encountered in 1 case (0.5%), where the procedure was abandoned and was performed after a month.

Conclusion: Hysteroscopic TCRE is an effective modality, avoids unnecessary hysterectomy in the perimenopausal women and allows early return to work. The cost-effectiveness, improved quality of life and work performance provides TCRE an edge over the 'conventional' hysterectomy.

Keywords: TCRE, Heavy menstrual bleed, Hysteroscopy, Menorrhagia, Screening, DUB.

INTRODUCTION

Heavy Menstrual Bleeding (HMB) is known to be one of the major factors affecting the quality of life of women and work performance, especially in perimenopausal age group. Various procedures have been described in the literature for its management. Out of the many procedures described, both old and the new literature suggest that Hysteroscopy - transcervical resection of endometrium (TCRE) is an effective procedure in these women, with relatively few complications and high patient satisfaction (1,2).

Since its introduction in 1983 (3) TCRE has become an increasingly popular treatment for menorrhagia. The technique, once learned, is relatively simple, with

average operating times of approximately 20 minutes with complication rates of less than 2% in experienced hands (4,5).

In a country like India, especially in the rural settings, females hesitate to report to clinicians for gynecological problems like HMB, which affect their life significantly. And even if they do report, they are made to undergo unnecessary hysterectomies, despite there being alternative methods to manage such conditions. The magnitude and effect of HMB in these patients remains unquantified due to lack of published literature from the subcontinent.

We performed this prospective multicenter study to screen patients with menorrhagia to describe the population-based longitudinal trends like epidemiology

and duration of menorrhagia and to study the role, complications and post-operative functional scores of TCRE in these patients.

MATERIAL AND METHODS

We prospectively screened and operated patients with heavy menstrual bleeding from July 2012- July 2014 at 3 centers in Karnataka, India. Patients visiting gynecological outdoor/casualty with a diagnosis of Menorrhagia/ Heavy Menstrual Bleeding who were operated and completed a minimum 1 year follow-up were included. A total of 179 females were operated in this study.

Inclusion criteria:

- 1) All the subjects were in the perimenopausal age group and have completed their families.
- 2) Normal uteri (less than 6 weeks size).
- 3) Normal endometrial biopsy.
- 4) Clinical diagnosis of DUB, no IUCDs in situ.
- 5) No endocrinological disorders (Hypothyroidism) or hematological disorders (Anemia).
- 6) No history of anticoagulant or antiplatelet therapy.
- 7) Cases of Mirena failure or those not willing for Mirena.
- 8) Subjects with histopathological diagnosis of simple hyperplasia as well as cystoglandular hyperplasia.
- 9) Poor-follow up cases and those from rural background.
- 10) Patients who underwent medical management for their menstrual problems and didn't respond.

Exclusion criteria:

- 1) Younger women with puberty menorrhagia.
- 2) Those desirous of conserving fertility.
- 3) Those with utero-vaginal descent or incontinence of urine.
- 4) Subjects with myoma uterii (sub mucosal/intramural).

- 5) Adenomatous as well as atypical endometrial hyperplasia.
- 6) Coexisting endometriosis or Adenomyosis.
- 7) Pelvic infection.
- 8) Evidence of malignancy.
- 9) Submucosal polyps.
- 10) Patients refusing consent.

Methodology:

Routine office hysteroscopy and endometrial sampling was done for all the subjects. Prior to TCRE, 1 month of exogenous progesterone was given to all subjects. Patients found eligible to undergo TCRE were thoroughly counseled about the nature, merits and demerits of the procedure. They were suitably investigated and informed written consent was taken. Preoperatively, one dose of injectable antibiotic was given. No endometrial thinning agents were given prior to the procedure. The surgical procedure was performed under general anesthesia using angled cutting loop for cavity wall resection and roller ball coagulation for fundus and corneal region, with 1% glycine solution as distension medium. A universal camera was used which was connected to the monitor via VCR, which helped in recording of cases.

Patients were discharged on the same day. Postoperatively, they were given a course of antibiotics and minimal dosage of analgesics and patients were followed up on a weekly basis for initial 3 weeks and monthly then after for 1 year.

Observations:

Out the 2106 patients screened, 179 eligible patients gave written consent to the trial and TCRE was performed on them. The effects of TCRE on menstruation and satisfaction were assessed. All were treated medically before they joined the trial. Patients were seen maximum in the age group of 45-49 years (93 patients). Duration of menorrhagia was more than 6 months in 85% patients and with more than 7 days bleeding in 62% cases. (See **Fig.1, 2, 3 and Table.1**)

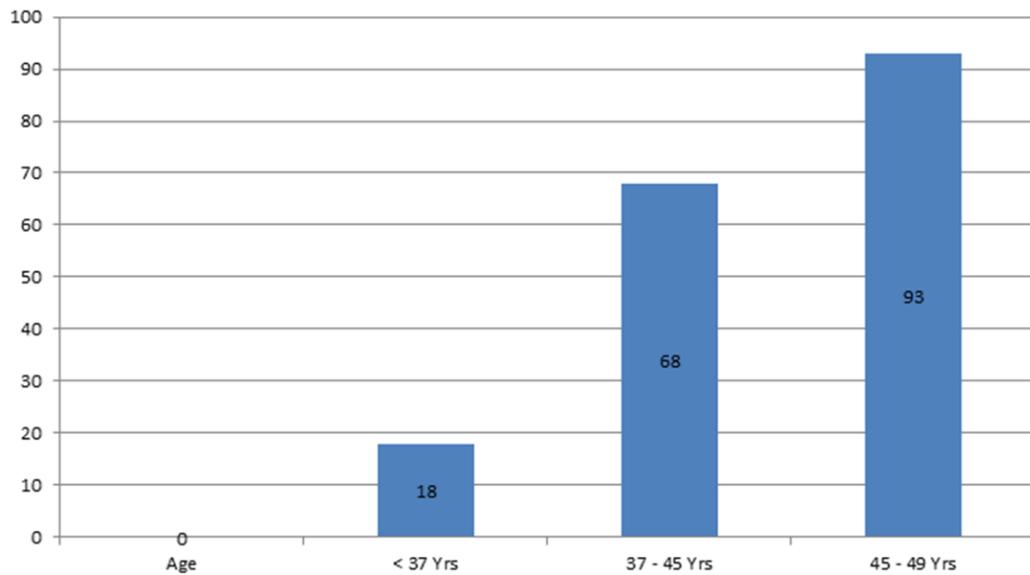
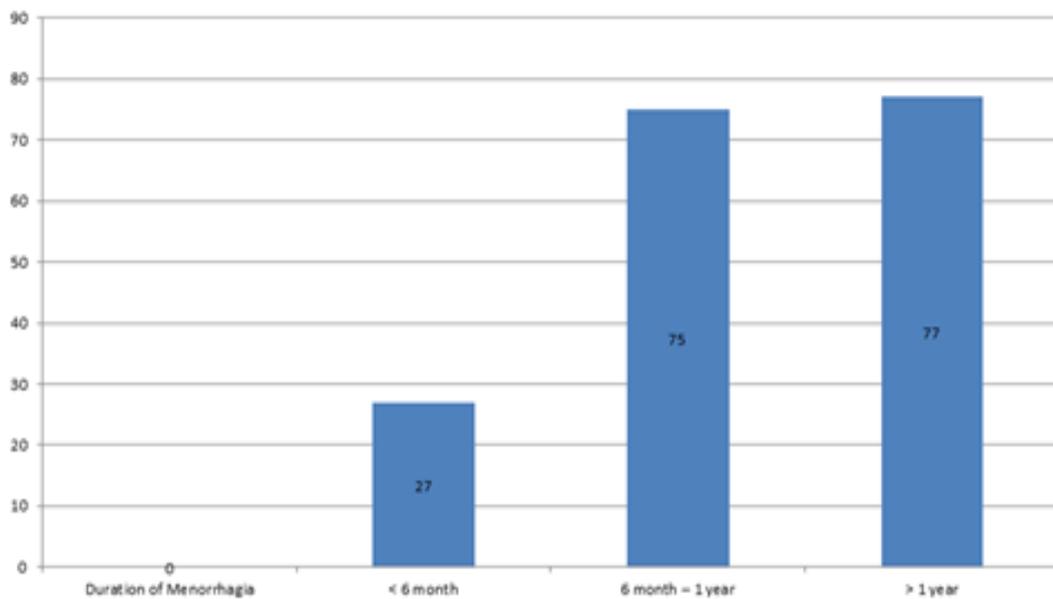
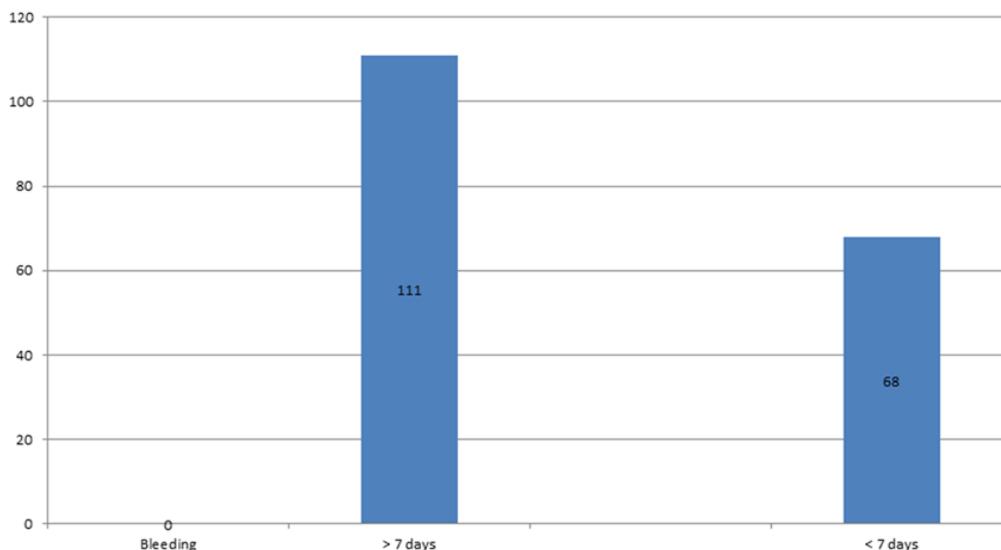
Figure. 1: Age distribution (179 patients)**Figure.2: Duration of Menorrhagia (179 patients)**

Figure.3: Duration of Bleeding (179 patients)**Table 1 Pre-operative Patient characteristics:**

		TCRE (N = 179)			
Age in years	< 37 Yrs	37 - 45 Yrs		45 - 49 Yrs	
	18 10%	68	38%	93	52%
Duration of Menorrhagia	< 6 month	6 month - 1 year		> 1 year	
	27 15%	75	42%	77	43%
Bleeding		> 7 days		< 7 days	
		111	62%	68	38%

The mean operative time in 179 patients was 43.4 minutes and average hospital stay was 1.4 days. Post-operative recovery parameters are listed in (Table.2)

Table 2: Operative and Post-operative recovery parameters

Operation parameters:	
Mean time of operation	43.4 mins
Mean hospital stay	1.4 days
Post-operative recovery :	
Pyrexia	1 day
Vaginal bleeding	10.1 days
Vaginal discharge	7.4 days
Pain abdomen	2.3 days
Return to domestic work	5.1 days

Follow up:

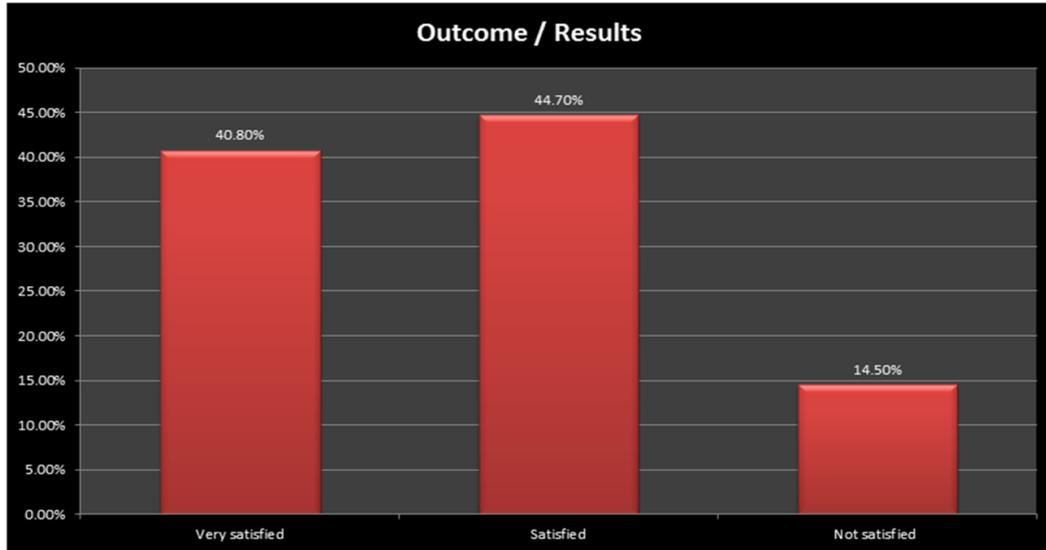
Patients were followed up at 1 months post discharge from the hospital either in

person or telephonically and enquired about their current menstrual blood loss and results quantified. Subsequent follow ups were done at 3, 6 and 9 months.

The results with TCRE were overwhelming, with a patient satisfaction and improvement in bleeding patterns in 85.5 % patients (153/179). Outcome of

TCRE, based on patient satisfaction at 1st month follow up were graded as under: **(see Fig.4)**

Figure-4. Results of TCRE in 179 patients at 1 Year Follow-up



1. Very satisfied – 73 (40.8 %)
2. Satisfied – 80 (44.7 %)
3. Not satisfied - 26 (14.5 %)

The Menstrual Blood Loss Pattern following surgery at 3, 6 and 9 month follow ups are summarized in **(Fig.5 and Table.3)**.

Figure-5. Outcomes at 1,6 Months & 1 Year Follow-Ups

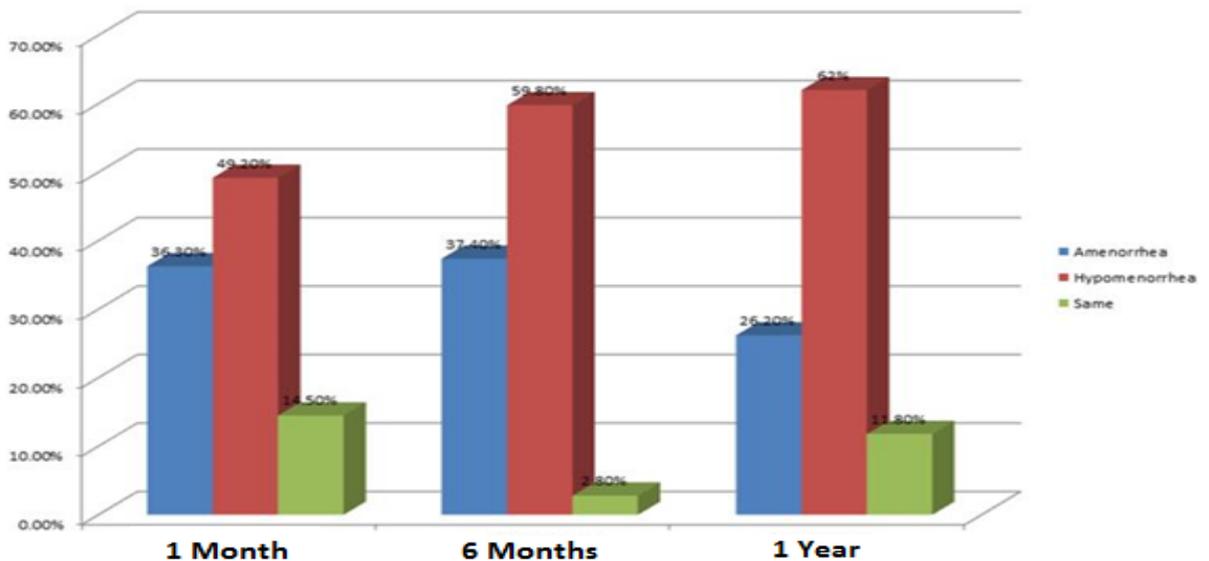


Table.3: Menstrual Blood Loss on 1 month, 6 months and 1 year follow ups (179 patients).

	After 1 month		After 6 months		After 1 year	
Amenorrhea	65	36.30 %	67	37.40 %	47	26.20 %
Hypomenorrhea	88	49.20 %	107	59.80 %	111	62 %
Same	26	14.50 %	5	2.80 %	21	11.80 %

Complications:

Intraoperative, Fluid overload was observed in 1.1 % (2/179 cases) and 'False-passage' was encountered during dilatation of cervix for hysteroscopy introduction in 0.6 % (1/179 cases), where the procedure was abandoned and was performed after a month.

Post operatively, 11.2 % (20/179 cases) reported with recurrence of menorrhagia, out of which 7.3 % (13/179 cases) received exogenous progesterone therapy later, and were relieved with it, while 3.9 % (7/179 cases) underwent hysterectomy as the last resort. Haematometra was observed post-operatively in 1.7 % (3/179 cases), which was drained under USG-guidance. (See Table. 4)

Table.4: Intraoperative and Post-Operative Complications

Intra-operative:	
1.Fluid overload:	1.1% (2/179 cases)
2. False passage/uterine perforation:	0.6 % (1/179 cases)
Post-Operative:	
1.Recurrence:	11.2 % (20/179 cases)
2.Haematometra:	1.7% (3/179 cases)

DISCUSSION

Minimally invasive surgical techniques have become increasingly popular with the reduction in the number of hospital beds available and the demand for increased turnover of patients. Patients today are more aware of minimally invasive surgical techniques and many patients demand for these procedures at the time of presentation. TCRE is a cost effective and clinically effective procedure in the treatment of menstrual disorders especially menorrhagia (6,7). Scottish Hysteroscopy Audit Group study concluded that TCRE has a significant role to play in the management of menorrhagia (8).

It has been shown previously that when performed in experienced hands or when done under supervision, TCRE is superior to hysterectomy in terms of intra and post-operative morbidity (9,10). Duration of procedure is significantly shorter than hysterectomy and post-operative recovery time and stay in the

hospital is significantly reduced. This is perhaps greatest benefit of hysteroscopic surgery (11).

Since its development through the 1980s the technique of transcervical resection of the endometrium has remained basically unchanged. The introduction of fluid management systems has been claimed to reduce fluid deficits (12), but careful control of infusion pressure and shorter operating times achieved by experienced surgeons limit the need for such technology. No cases of fluid overload (deficit >1.5L) were noted in this series when a gravitational infusion system was used.

Strict selection criteria have been shown in a number of studies to be of paramount importance, not only in achieving good objective results, but also in achieving high patient satisfaction rates. Selection criteria should include: completed family, a wish to avoid or contraindication to hysterectomy, no coexistent gynecological pathology, and a normal smear within three

years (4). The presence of dysmenorrhea has not been shown in other studies to affect the degree of patient satisfaction (8).

Counseling regarding dysmenorrhea post-operatively is also of importance. Thorough counseling of women is needed pre-operatively to minimize post-operative disappointment in the bleeding pattern achieved. Hysterectomy remains the only surgical technique which guarantees amenorrhea; however, hysterectomy does not guarantee patient satisfaction. Minimally invasive surgical techniques should not, therefore, be offered to women who are adamant that amenorrhea is the desired result.

Complications occurring intra-operatively and post-operatively were quiet similar as seen in previous studies (13, 14, 15). We observed, Recurrence – 11.2 % (20/179 cases), Haematometra – 1.7% (3/179 cases), Fluid overload - 1.1% (2/179 cases), False passage/uterine perforation - 0.6 % (1/179 cases).

Postoperative endometritis did not occur in this series but is a recognized complication (16). Concerns regarding long-term healing have been voiced. Most benign is the recurrence of abnormal bleeding, which has been quoted at 11.2% (20/179 cases); however, more sinister is the possibility of the masking of malignant change in residual islands of endometrium (17).

Trans-cervical resection of the endometrium is a safe and effective treatment for menorrhagia. It can be offered to women as an alternative to medical or

more radical surgical therapies and is not associated with the side effects of hormone preparations and long-term morbidity of invasive surgery. Unlike medical treatments, it can achieve a long-term cure. With shorter hospital stay than for hysterectomy, and more rapid convalescence, the financial cost to both hospital and the patient is potentially considerably less than for invasive procedures.

Although hysterectomy was considered superior in terms of overall patient satisfaction until sometime ago, we should not forget that it is associated with greater morbidity. Good effectiveness, reduced morbidity, short hospital-stay and early return to work give TCRE a 'distinct edge' over the widely practiced hysterectomy procedure. Thus, TCRE in experienced hands is a safe and reliable procedure in perimenopausal women with HMB with decreased morbidity and shorter recovery time.

CONCLUSIONS

TCRE is an effective procedure for the treatment of menorrhagia and is fairly safe in the hands of an experienced surgeon. It can avoid many unnecessary hysterectomies in cases menorrhagia in patients with completed families and of perimenopausal age group. There is a profound enthusiasm towards minimal-access surgery and this trend is likely to continue in future. Hysteroscopic TCRE is an effective modality, avoids unnecessary hysterectomies in the perimenopausal women and allows early return to work. The cost-effectiveness, improved quality of life and work performance provides TCRE an edge over the 'conventional' hysterectomy.

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