

Thermal Balloon Endometrial Ablation in Dysfunctional Uterine Bleeding

Rishma Dhillon Pai

Department of Gynecology, Jaslok & Lilavati Hospitals, Mumbai, India

ABSTRACT

Introduction: Dysfunctional uterine bleeding (DUB) affects a large number of women in the reproductive and perimenopausal age group. It significantly impairs the quality of life in otherwise healthy women. There are many different techniques for the conservative management of DUB. Medical management, LNG-IUD, hysteroscopic resection and various global ablation techniques. **Materials and Methods:** We did a retrospective analysis of 156 women with dysfunctional uterine bleeding who had completed childbearing and who underwent uterine balloon ablation therapy using the Thermachoice device. Majority of the women (72%) were done using short general anesthesia while in the others sedation or local anesthesia was used. **Results:** 49% women had amenorrhea while 41 % had oligomenorrhoea or eumenorrhoea. 90% were satisfied with the procedure. There were no major complications during this study. **Conclusions:** Thermal balloon endometrial ablation is a simple, safe and effective technique for the permanent treatment of DUB in well selected cases.

Key words: Dysfunctional uterine bleeding, treatment, ablation, patient satisfaction

DOI: 10.4103/0974-1216.51907

INTRODUCTION

Dysfunctional uterine bleeding (DUB) affects a large number of women in the reproductive and perimenopausal age group. It significantly impairs the quality of life in otherwise healthy women.

The basic evaluation of these women includes physical examination, laboratory tests, sonography and sometimes hysteroscopy and endometrial sampling. These help to determine etiology, rule out cancers and other pathologies and help plan treatment.

Often, the initial treatment is with drugs such as tranexamic acid, antiprostaglandins combined oral contraceptive pills, oral progesterone therapy and sometimes GnRh analog depot injections.

Levonorgestrel intrauterine system (LNG-IUS) is an effective treatment for DUB and gives amenorrhea or oligomenorrhoea for a five years period.

Hysteroscopic endometrial ablation was introduced in the 1980's for treatment of DUB. But due to the surgical expertise and training required and complications such as but perforation, bleeding and fluid overload, it did not retain its popularity.

In the 1990's global ablation techniques were introduced. There are many different modalities available such as thermal balloon, circulated hot fluid, cryotherapy, radiofrequency, electrosurgery and microwave.

Four different types of thermal balloon devices are available-the thermachoice, cavaterm, menotreat and thermablate.

Address for correspondence:

Dr. Rishma Dhillon Pai,
4/11, Avanti Apartments, Senapati Bapat Road, Dadar (W),
Mumbai - 400 028, India. E-mail: rishmapai@hotmail.com

MATERIALS AND METHODS

A retrospective analysis of 156 women with dysfunctional

uterine bleeding was done. All had completed childbearing and were more than 30 years of age except in five cases which are specified below.

- One pt with Laurence Moon Beidel Syndrome
- Two pt with Down's Syndrome
- One pt with renal failure on dialysis
- One haemotological disorder

All patients underwent routine blood investigations and sonography to rule out uterine pathology.

An endometrial biopsy was done on all, either pre-procedure or intraoperative followed by a frozen section, in order to rule out endometrial cancer prior to the procedure. Therma Choice device with disposable balloon from Johnson and Johnson was used in all the cases.

All patients were given a rectal suppository of diclofenac two hours prior and post operative anti-spasmodics.

RESULTS

The mean age of the women was 41 ± 2.5 years with majority of the women being more than 40 yrs of age. Most of the procedures were done under general anesthesia (71%) on a day care basis. Mean intrauterine pressure was between 160–180 mm of Hg. However there were two cases in which the intrauterine pressure could not be built up due to faulty balloon.

Intra operative problems and complications.

- Two cases in which pressure could not be build up due to faulty balloon.
- Three patients complained of severe cramps under local anesthesia
- Serious complications – NIL

Follow up

46 women were lost to follow up [Table 1].

Long term problems and complications

Five cases - hyperplasia on follow up sonography D and C

	3–5 years: 26 women	1–3 years: 53 women	<1 year: 31 women
Amenorrhoea	8	32	14
Oligomenorrhoea	8	14	10
Eumenorrhoea	4	3	6
Menorrhagia	6	4	1

done on all these patients-No malignancy seen 14 patients underwent hysterectomy eventually (12.7%).

DISCUSSION

Thermachoice is the only global ablation device available freely in India. It has become popular due to the ease and simplicity of use and its very low complication rate. However the cost of the machine and the disposable balloons have still made it unreachable to the vast majority of the population.

89% of our cases were done in day care and were in hospital for six to eight hours. 7% underwent the procedure on an outpatient basis with only a rectal suppository for pain relief pre operative and local anesthesia intra-op. Of these, three patients complained of severe cramps and completed the procedure with difficulty.

Anderson *et al.*^[1] reported in 2007 on 56 cases being done in an outpatient setting successfully in 97% women; hence it is feasible to do this procedure in an OPD setting.

In another study by Marsh *et al.*^[2] 87% of women could tolerate outpatient thermachoice well and had similar pain scores to patients who had a short general anesthesia. Also these patients have less nausea, vomiting and spent only one hour forty minutes in hospital on an average.

There were no major complication in our study and that is a major advantage of the TBEA.

Dickersin *et al.*^[3] in a recent multicentric RCT 'The 'STOP – DUB' trial concluded that both endometrial ablation and hysterectomy are effective treatment for women with DUB, but hysterectomy was associated with more adverse effects while more patients of ablation needed a re-operation. 49% of patients had amenorrhoea overall and 20% had oligomenorrhoea while 11.8% has eumenorrhoea. 10% of patients had menorrhagia which persisted or restarted within a five years follow up.

In a retrospective study of six years of TBEA by Ahonkallio,^[4] 76% of 152 women analyzed were satisfied with the procedure. 14% had amenorrhoea while 54% had eumenorrhoea. He thus concluded that this procedure has good long-term efficacy and works best for women over 40 with heavy but regular menses.

In a 2009 article in Obstet Gynecol, Nashar *et al.*^[5] reported that the amenorrhoea rate was 23% and the five years failure rate was 16%. Predictors of amenorrhoea were 45 years or older, uterine length less than nine centimetres, and

endometrial thickness less than four millimetres.

In our study 14 women (12.7%) underwent a hysterectomy eventually. This is similar to world literature which quotes a hysterectomy rate of 16% Ahonkalio^[4] 21% Longinotti^[6] 12.9% Kleijn^[7] and 9% Hazard.^[8]

When comparing TBEA with the use of levonorgestrel IUS, Tam^[9] reported that the mean haemoglobin was higher in the patients treated with TBEA and their overall health perception was higher than in the LNG-IUS group.

Hazard *et al*^[8] published in 2009 that the satisfaction rate with TBEA was 89%.

McPherson^[10] reported that there is a higher risk of psychological problems such as libido loss, difficulty with sexual arousal and vaginal dryness with hysterectomy than with conservative surgeries for DUB.

In India the cost of the disposable balloon is an issue but considering the savings from hospitalization, medication, surgeon's fees and leave from work, it eventually works out cost effective.

In conclusion, TBEA is an excellent alternative to both medical therapy with oral medication or LNG IUS as well as to hysterectomy, as it has good long term patient

satisfaction rate, very low complication rate and can be performed under local anesthesia in an outpatient setting.

REFERENCES

1. Anderson S, Mints M 2007;86:480 -3
2. Marsh F, Thewlis J, Duffy S. Randomized controlled trial comparing Thermochoice III* in the outpatient versus daycase setting. *Fertil Steril* 2007;87:642-50. Epub 2006 Nov 15.
3. Dickersin K, Munro MG, Clark M, Langenberg P, Scherer R, Frick K, *et al*. Hysterectomy compared with endometrial ablation for dysfunctional uterine bleeding: a randomized controlled trial. *Obstet Gynecol* 2007;110:1279-89.
4. Ahonkallio S, Martikainen H, Santala M. Endometrial thermal balloon ablation has a beneficial long-term effect on menorrhagia. *Acta Obstet Gynecol Scand* 2008;87:107-10.
5. El-Nashar SA, Hopkins MR, Creedon DJ, St Sauver JL, Weaver AL, McGree ME, *et al*. Prediction of treatment outcomes after global endometrial ablation. *Obstet Gynecol* 2009;113:97-106.
6. Longinotti MK, Jacobson GF, Hung YY, Learman LA. Probability of hysterectomy after endometrial ablation. *Obstet Gynecol* 2008;112:1214-20.
7. Kleijn JH, Engels R, Bourdrez P, Mol BW, Bongers MY. Five-year follow up of a randomised controlled trial comparing NovaSure and ThermoChoice endometrial ablation. *BJOG* 2008;115:193-8, Epub 2007 Jul 6.
8. Hazard D, Harkins G. Patient satisfaction with thermal balloon ablation for treatment of menorrhagia. *Am J Obstet Gynecol* 2009;200:e21-3.
9. Tam WH, Yuen PM, Shan Ng DP, Leung PL, Lok IH, Rogers MS. Health status function after treatment with thermal balloon endometrial ablation and levonorgestrel intrauterine system for idiopathic menorrhagia: A randomized study. *Gynecol Obstet Invest* 2006;62:84-8
10. McPherson K, Herbert A, Judge A, Clarke A, Bridgman S, Maresh M, *et al*. *Health Expect* 2005;8:234-43.

Source of Support: Nil, Conflict of Interest: None.