TANG HUMANITAS MEDICINE

Brief Communication

Effect of traditional dry cupping therapy on heavy menstrual bleeding in menorrhagia: A preliminary study

Arshiya sultana[1,*], Khaleeq ur Rahman[2]

[1]*Lecturer, Dept of Amraze Niswan wa Ilmul Qabalat (Gynecology and Obstetrics), National Institute of Unani Medicine, Bangalore, Karnataka, India;* [2]*Lecturer, Dept of Ilmul Saidla (Pharmacy), National Institute of Unani Medicine, Bangalore, Karnataka, India*

ABSTRACT

Menorrhagia (*kasrate tams*) is the most common gynecologic complaint in contemporary gynecology, affecting 10 to 15% of the adult female population. It can occur at any age. In the Unani system of medicine, since antiquity, dry cupping therapy (*hijamat bila shurt*) has been used to treat menorrhagia. An effort was made to evaluate the usefulness of dry cupping on excessive menstrual blood loss in menorrhagia with a well validated menstrual pictogram. This study was conducted on 15 patients at the National Institute of Unani Medicine, Hospital Bangalore, from January 2010 and July 2010. Unmarried or married patients aged 17 - 47 year with a history of excessive or prolonged bleeding per vaginum were included. Two large cups (with 5.7 cm internal diameter) were applied below each breast for 15 min, only once during the menstrual period when the patient reported to the outpatient department. If the menstrual flow was not reduced, the next day again dry cupping was repeated. The outcome was to assess the efficacy of dry cupping on the reduction in the amount of menstrual blood loss. The data was analyzed by the Wilcoxon matched test. The mean scores of menstrual blood loss before and after the treatment was 400.26 (277.95) and 48.4 (32.082) ml respectively, $p = 0.002$, considered statistically significant. A dry cupping therapy is a useful treatment modality in decreasing the amount of menstrual blood flow in menorrhagia. Further randomized controlled clinical trials and validation are needed in a large population.

Keywords *Hijamat bila shurt*, dry cupping therapy, menorrhagia, Unani system of medicine, menstrual pictogram

INTRODUCTION

Menorrhagia is considered to be one of the most significant causes of ill health and a major public health problem for women of reproductive age (Fathima and Sultana, 2012). Menorrhagia affects up to 20 - 30% of women during their reproductive years (Sengupta et al., 1998). It is quantitatively defined as menstrual blood loss of 80 ml or more per menstrual cycle. Heavy menstrual bleeding is described as a condition that "interferes with the woman's physical, social, emotional and /or material qualities of life" (Lukes et al., 2010). Treatment objectives in this disease are to improve the quality of life as well as alleviating heavy menstrual flow. Medical treatments, hormonal therapy or definitive surgical correction may result in a substantial reduction in menstrual blood loss, but these therapies have their own side effects. However, until recently, the only permanent cure for menorrhagia has been a hysterectomy (Kooy et al., 1996). Menorrhagia can be defined both objectively and subjectively. Objective menorrhagia is taken to be a total of measured menstrual blood loss in excess of 80ml per cycle. The average menstrual blood loss is 35 - 50 ml, without significant clots. Subjectively, it is defined as a complaint of excessive regular menstrual bleeding occurring over several consecutive cycles in women of reproductive life (Wyatt et al., 2004). The causes of menorrhagia are fibroid, pelvic inflammatory diseases, idiopathic, etc. It is also reported that approximately in 50% of the patients no organic pathology is deducted (Oehler and Rees, 2003).

The causes, clinical features, complications and treatment of menorrhagia are discussed in classical Unani text. In the view of *Unani* scholars, the etiology of menorrhagia are *sue mizaj rehm wa badan* (abnormal temperament of uterus or body), *amraz rehm* (uterine diseases), *galbae khilt safra* (dominance of bilious humour), *imtilae badan* (plethora of body), *riqqat* and *latafat khoon* (liquification of blood) etc. According to Al Qanoon, *zoafe quwat masika* (weakness in retentive faculty) and *qawi quwat dafiya* (strong expulsive faculty) lead to this disease. If not treated in time, the disease leads to complications like weakness, abortion, defect in implantation, intrauterine growth retardation etc. Hence, treatment is necessary. In the Unani system of medicine many herbs and regimenal therapy (dry cupping) are available, which are beneficial to treat menorrhagia. *Hijamat bila shurt* (dry cupping therapy) is a type of regimental therapy that is used in reducing menstrual blood loss in menorrhagia, which is non-invasive, easily available, has no potential for drug interaction and is cost effective. According to the general principles of Avicenna's Canon of Medicine, it decreases the menstrual blood loss in this disease by causing *imalae mawad* (shunting of morbid humours/blood) from the uterus. Razi was of the opinion that to stop excessive menstrual flow, cups should be applied below the breasts as the vessel from the uterus reaches here. According to Kitabul Hawi, big cups are to be applied as the uterus is having *musharikat* (especial connection) with the breasts. Though dry cupping therapy is a method of treatment that dates back to ancient periods, its effect in reducing excessive menstrual blood loss in menorrhagia have not been measured objectively. Therefore,

[*]Correspondence: Arshiya sultana
E-mail: drarshiya@yahoo.com, drasnium@gmail.com
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the objective of this preliminary study was to evaluate the usefulness of dry cupping therapy on excessive menstrual blood loss in menorrhagia with a well-validated menstrual pictogram.

MATERIALS AND METHODS

Study design

This prospective, single center preliminary study was conducted to assess the usefulness of a dry cupping therapy on excessive menstrual blood loss in menorrhagia. Fifteen diagnosed patients of excessive menstrual blood were recruited in this study from the Outpatient Department of National Institute of Unani Medicine, Bangalore during January 2000 and July 2010. The inclusion criteria were unmarried and married patients aged 17 - 47 year with a history of excessive or prolonged bleeding per vaginum. Patients who had severe anaemia and menorrhagia, congenital malformation of the uterus, genital malignancy, blood dyscrasias pregnant and lactating women were excluded.

Procedure

All details of the participants and informed consent were obtained at their first visit. A history along with demographic data, general and systemic examination, routine investigation and ultrasonography of pelvis were recorded. The menstrual blood loss was assessed by menstrual pictogram before giving the therapy and 12 h after the treatment.

Diagnostic criteria

To diagnose the excessive menstrual blood loss, a menstrual pictogram that is a modification of the previous PBAC technique was used. It is a visual representation of blood loss from which a numerical score in milliliters is derived. The chart consists of five icons representing blood lost on towels and four icons representing blood lost on tampons are present. Three icons demonstrate variations in the size of blood clots and another three icons were included to represent the volumes of blood lost in the toilet when changing sanitary wear. A numerical scoring system was devised to coincide with the amounts of blood lost. The score is calculated in milliliters and is equivalent to the actual volume of blood lost (Wyatt et al., 2004). A validation study by Wyatt et al. (2001) suggested a significant positive correlation between a women's ability to estimate her blood loss on sanitary wear using the menstrual pictogram and her actual blood loss assessed using the alkaline haematin technique.

An additional advantage of the menstrual pictogram is the estimation of the extraneous blood loss that cannot be assessed by PBAC. Wyatt et al. (2001, 2004) reported that menorrhagia was confirmed objectively in 36% of their study group presenting with menorrhagia when only the sanitary products were assessed. However, when extraneous blood loss was taken into consideration this figure increased to 74%.

Sensitivity and specificity

The menstrual pictogram had a sensitivity of 86% and specificity of 88% in diagnosing menorrhagia (as defined by the alkaline hematin method). The associated κ statistic for the comparison between the feminine hygiene product icons and the alkaline hematin assessment was 0.8 (Wyatt et al., 2001).

Intervention

One glass cup with a size of 6.6 cm (external diameter) was applied below each breast for 15 min only once during the menstrual period when the patient reported to outpatient department. The vacuum was created with a mechanical suction pump. If the menstrual flow was not reduced, then on next day again the same procedure was repeated. If the patient did not respond then the Unani drug therapy was started.

Statistical analysis

The results were analyzed statistically by using Graph pad statistical software. A Wilcoxon matched pair test was used. The level of significance was 5%.

RESULTS

A total of 17 patients were given the treatment in which menstrual blood loss was not recorded by a menstrual pictogram in two patients because they did not review back after being given the treatment. The data was analyzed only in 15 patients. The mean age was 34.06 years. Fourteen patients were married, whereas only one was unmarried. The mean duration of menstrual blood flow was 12.66 (4.7) days. The menstrual blood loss before and after treatment is summarized

Table 1. Characteristics of patients

S. No.	Age in years	Parity	No. of Pads/cycle	Duration of flow /Duration of cycle (day)	USG finding	Menstrual Pictogram (ml)	
						BT	AT
1.	30	5	12	10 - 12/30	Normal	176	5
2.	35	3	15	20/30	Thickened endometrium	290	11
3.	37	2	30	11/30	PID	418	0
4.	38	3	16	5/30	Normal	187	5
5.	17	unmarried	45	15 - 20/30	Normal	930	15
7.	44	2	60	15/30	Fibroid	723	5
8.	37	4	50	7/30	Fibroid	522	15
9.	45	1	15	10/35	Normal	144	5
10.	24	3	20	15 - 20/30	Normal	230	50
11.	30	1	60	15 - 30/35	Thickened endometrium	924	112
12.	47	5	10	10 - 12/35	Normal	124	100
13.	46	2	16	10 - 15/30	Hyperplasia of endometrium	186	10
14.	37	2	30	10 - 11/22	Fibroid	500	100
15.	26	2	26	7 - 10/30	Normal	500	120

Abbreviations: USG: Ultrasonography; PID: Pelvic inflammatory diseases; BT: Before Treatment; AT: After Treatment.

in Table 1.

DISCUSSION

A patient who was having a fibroid was given treatment for three cycles and a reduction of excessive menstrual blood loss was seen in all three cycles. A patient with a pelvic inflammatory disease came for follow up and in the second cycle she had normal menstrual blood loss. In two patients in Unani compound preparation, *Sharbat Anjabar* was started as the menstrual blood flow did not stop completely.

This preliminary study is the first of its kind. However, there is some data that cupping is effective in the treatment of painful conditions such osteoarthritis of knee joints or lower back pain, and dysmenorrhea (Akhtar and Siddiqui, 2008; Sultana et al., 2010; Ullah et al., 2007). It was found that dry cupping therapy was useful in reducing the menstrual blood loss. Recent investigations with multiple theories proposed that alterations in endometrial vascular hemostasis, locally mediated by metabolites of arachiadonic acid, promoters of platelet aggregation and levels of metabolites such as thromboxane, and $PGF_2\alpha$ which are known to function as vasoconstrictors have been shown to be relatively reduced. Moreover, concentrations of prostaglandins that are known to be vasodilators and platelet antiaggregants, such as prostaglandin E_2 and prostacyclin in menstrual fluid from women, are increased in menstrual blood loss. There may be enhanced fibrinolytic activity in the endometrium of a woman with menorrhagia that may be responsible for altered endometrial haemostasis. There is a higher activity of the tissue plasminogen activator in the endometrium. PGE receptor concentration is increased in myometrial specimens. There is an absence of thrombin generating activity with high levels of fibrinogen-related plasminogen activator, plasmin and antigen within the menstrual fluid. All these factors are responsible for excessive menstrual blood flow (Moore et al., 1993). It is mentioned that the shunting of blood flow away from the viscera results in less congestion in the pelvic area, and suppresses the prostaglandins (Wallis et al., 1998). Similarly, the concept of applying dry cupping therapy is that it causes the shunting of morbid humours/blood from the uterus towards the breasts, thereby decreasing congestion in that organ and suppresses the prostaglandins, hence reduces the menstrual blood loss. Therefore, it was found that excessive menstrual blood loss in patient was reduced in this study. Overall, the limitation of this study is that it was observational study without any control.

Though the study was conducted only on 15 patients and the dry cupping therapy was applied for one cycle, it showed a good response in reducing the heavy menstrual bleeding. Hence, further randomized standard controlled clinical trials on a larger sample for a longer duration of time are recommended. Moreover, biochemical parameters (e.g., prostaglandin E2, and prostacyclin) that are related to menorrhagia should be analyzed to see that the dry cupping therapy is having any effect on them.

CONFLICT OF INTEREST

The authors have declared no conflict of interest.

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