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Acupuncture treatment for dysfunctional uterine bleeding in an adolescent

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SUMMARY

A 17-year-old girl with a history of dysfunctional uterine bleeding (DUB) and severe dysmenorrhoea was treated with different conventional hormonal therapies for 16 months without improvement. Treatment with traditional Chinese acupuncture was started while she was taking oral contraceptives. She received a total of 27 treatments in 17 weeks. Her menstrual cycle normalised after 4 weeks (10 treatments). She continued to be regular during the rest of treatments and to date, 6 months after the treatment was discontinued. This report summarises the acupuncture treatment for DUB in this adolescent girl.

BACKGROUND

Dysfunctional uterine bleeding (DUB) is common among adolescent girls. Approximately 9%–30% of reproductive-aged women have menstrual irregularities requiring medical attention.¹ Treatment options are different medical regimens for a few months or longer.^{1–3} Treatment failure, non-compliance and side effects are all concerns.^{1–3} Metformin and combined oral contraceptives for reduction of irregular bleeding had low or moderate strength of evidence for effectiveness.⁴ Traditional Chinese acupuncture may provide benefit as an adjunctive or alternative treatment in cases where medical therapies have not been successful.^{5 6}

CASE PRESENTATION

A 17-year-old girl with a body mass index of 23 and menarche at age 13 presented to her primary paediatrician's office for abnormal uterine bleeding since age 14. Her menstrual bleeding occurred 1–3 times per month, lasted 3–7 days and was painful. At age 15, she was referred to a gynaecologist for management because her irregularities worsened over time. A pelvic ultrasound, von Willebrand factor, complete blood count, platelet, anaemia

profile, thyroid stimulating hormone, prothrombin time, partial thrombin time, factor 8, follicular stimulating hormone, luteinising hormone, oestradiol, 17-progesterone were all normal. Her Dehydroepiandrosterone (DHEA) sulfate was mildly elevated 411 (normal 37–307). For the following 15 months, she was treated serially with Depo-Provera injections, OrthoEvra (ethinyl estradiol and norelgestromin) patches without improvement, and Estarylla contraceptive pill (CP) was started 1 month prior to presentation without improvement.

At the time of re-presentation to her paediatrician's office, despite being on a CP, she had four periods of bleeding in the month prior, with breaks lasting 1–4 days in between periods. She used up to 10 heavy pads per day, with frequent flooding. She reported pain of 8/10 with menstruation, large clots up to 2 cm in size, headache, dizziness and five episodes of syncope. At the time of presentation, she shared that despite good compliance with medication, she had noted no improvement in her menses and was becoming hopeless about ever improving her symptoms. She asked what else she could try to regulate her menstruation.

At this time, the author, who is the patient's paediatrician and is also fully trained and dual licensed in traditional Chinese medicine (TCM), offered acupuncture treatment to manage her DUB with severe dysmenorrhoea. Based on TCM diagnostic criteria, the patient was diagnosed with abnormal uterine bleeding due to 'heat and phlegm with blood stasis'. The treatment principle is to 'clear heat, reduce phlegm', reduce stress, 'invigorate blood' and 'fill her conception (menstrual) channels'. The patient had not heard of acupuncture prior to the treatment, but after a trial of one needle, she was willing to commit to the treatment.



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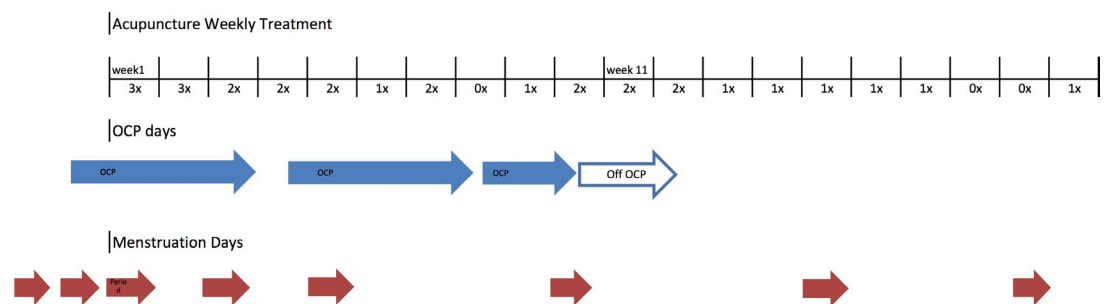


Figure 1 Timeline summarising the correlations among the days of acupuncture treatments, menstruations and oral contraceptives. OCP, oral contraceptive pill.

Table 1 Needle placements of each treatment session

Visits	Zi											Zhu's											Retention
	LU 11	LI 4*	LV 3*	ST 36	ST 44	LU 7	SP 10	SP 9	SP 8	SP 6	SP 4	K 3	R 6	R 3	R 4	Gong	Ear points	Scalp	Special	Additional points/remarks	Time (min)		
1	2†	1†	1	2	1	2	2	2	1	1	1	1	1	1	1	2	SM, K, ovary	HF, LU	Points	ST29×2	30		
2	2	1	1	2	1	2	2	2	1	1	1	1	1	1	1	2	SM, K, ovary	HF, LU		ST29×2	35		
3	2	1	1	2	1	2	2	2	1	1	1	1	1	1	1	2	SM, K, ovary	HF, LU	FuKe, DuanHong	ST29×2	30		
4	2	1	1	2	1	2	2	2	1	1	1	1	1	1	1	2	SM, K, ovary	HF, LU	FuKe, DuanHong	ST29×2, patient appears relaxed	30		
5	2	1	1	2	1	2	2	2	2	1	1	1	1	1	2	SM, pelvis, SP	HF, LU	HF, LU		A little dizzy after last session	30		
6	2	1	1	1	1	2	2	2	2	1	1	1	1	1	2	SM, K, SP	HF, LU	FuKe, DuanHong	Warm liquid, no spicy, fatty foods	30			
7	2	1	1	1	1	1	1	2	2	1	1	1	1	1	2	SM, K, SP	HF, LU			30			
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, pelvis, SP, K	HF, LUx3		K14×2	30			
9	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP	HF, LU	FuKe, DuanHong		45			
10	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP	HF, LU	FuKe, DuanHong	K14×2, K7	35			
11	2	1	1	2	1	2	2	2	1	1	1	1	1	1	2	SM, K, SP, Pit	HF, LU	FuKe, DuanHong	UB23×2, 32×2, Du4, Jiaji L2×2, L4×2	35 supine, 25 prone			
12	2	1	1	2	1	2	2	2	2	1	1	1	1	1	2	SM, K, SP, Pit	HF, LU	FuKe, DuanHong	UB23×2, 32×2, Du4, GB41	35 supine, 25 prone			
13	2	1	1	1	1	1	2	2	1	1	1	1	1	1	2	SM, SP	HF, LUx2	FuKe, DuanHong	K7, Da Cha Xue	45			
14	2	1	1	1	1	2	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, DuanHong	Mu Xue	45			
15	2	1	1	1	1	2	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, HuanChao	ST40, GB43	45			
16	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, SP, pelvis	HF, LU	FuKe, HuanChao	ST40, GB43, Mu Xue	30			
17	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP	HF, LU	FuKe, HuanChao	ST40, GB43, discontinue CP	30			
18	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, HuanChao	ST40, Mu Xue	30			
19	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, HuanChao	ST40, Duan Hong	30			
20	2	1	1	2	1	1	1	1	1	1	1	1	1	1	2	SM, SP	HF, LUx2	FuKe, HuanChao	ST40, GB43X6, UB62, S13	30			
21	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, SP	HF, LUx2	FuKe, HuanChao	K7	30			
22	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, HuanChao	K7, ST40×2	30			
23	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LUx2	FuKe, HuanChao	K7, ST40×2	30			
24	1	1	1	1	1	2	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LU	FuKe	ST40×2	30			
25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LU			30			
26	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LU			30			
27	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF, LU			30			
28	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM, K, SP, pelvis	HF			30			
29	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	SM	HF			30			

30 Follow-up visit: 8 weeks after last session, no needling.

31 Follow-up visit: 6 months after treatment session #29. No needling, menstruations have been regular with minimal to none dysmenorrhoea.

* LU 4 and LV 3 are placed at opposite body sides.
 † '1' indicates unilateral placement; '2' indicates bilateral placement.
 CP, contraceptive pill; HF, head and face; K, kidney; LU, lung channel; LV, liver channel; Pit, pituitary; SM, Shen Men; SP, spleen; ST, stomach channel; R, Ren (Conception Vessel) Channel.

Box 1 Needling and point details**Needle size and insertion:**

Ear points, Dong's extraordinary points: 34G×0.5" (0.22×13 mm) needles, perpendicular placement, insertion depth 0.1"–0.2".

Scalp points, LU 7, ST44, Duan Hong Xue, Da Cha Xue: 34G×1" (0.22×25 mm) needles, oblique placement, insertion 0.25"–0.5".

SP 9, SP10, R3, R4, R6, Zi Gong, ST29: 34G×1.5" (0.22×40 mm) needles, perpendicular placement, insertion depth 0.75".

All other points: 34G×1" (0.22×25 mm) needles, perpendicular placement, insertion depth 0.25".

Ear points abbreviations: SM (Shen Men), K (kidney), SP (spleen), Pit (pituitary).

Zhu's scalp points abbreviations: HF (head and face), LJ (lower jiao).

Special points and locations:

FuKe: Dong's extraordinary point. This group contains two points, located at the ulnar aspect of the proximal phalange of the thumb, at the intersection of red and white skin, each point is 1/3 distance to the adjacent interphalangeal joint. When it is combined with Huan Chao, the opposite hand was used for Huan Chao.

Huan Chao: Dong's extraordinary point, located at the centre of the ulnar side of the middle phalange of the fourth finger, at the intersection of red and white skin.

Mu Xue: Dong's extraordinary point. This group contains two points, located at the ulnar aspect of the proximal phalange of the second finger, at the intersection of red and white skin, each point is 1/3 distance to the adjacent interphalangeal joint.

Duan Hong: located proximal to the Ba-Xie between second and third finger.

Da Cha Xue: located proximal to the Ba-Xie between thumb and second finger.

HF: Zhu's scalp point, located at Du 24.

LJ: Zhu's scalp point, near Du20.

Needle manipulation:

Gentle rapid twisting was used for UB23, UB32 and Jia Ji points, 10 s each time.

Reducing method while patient with deep slow breathing was used for Zhu's scalp points HF and LJ.

Electrical stimulation: not used.

TREATMENT

Acupuncture treatment point selection was based on her TCM diagnosis. Points included scalp points, ear points, extremity distal points and lower abdominal points. The plan was to treat three times per week first, reduce to two times weekly after a few weeks and gradually wean her off of treatment depending on her response. Her CP was to be continued.

Acupuncture treatment was started three times weekly on day 10 of her CP pack and day 2 of her period. Her period lasted for 6 days. On day of treatment (DOT) 13 (CP day 22 and after treatment #6), during the placebo week of CPs, she had another period which lasted 6 days with less pain and blood volume. Acupuncture treatment frequency was reduced to twice weekly, while continuing her CPs. On DOT 29 (new CP pack day 5 and after treatment #10), she had another period with a duration of

5 days with negligible pain. She did not have a period on day 21 of the second pack.

Thirty-two days after her last period, on DOT 61 (CP day 7 and after treatment session #16), her next period started and lasted for 5 days. Because she was not having menses corresponding to placebo weeks of her CPs, the CP was discontinued on DOT 65. Two weeks afterwards, her acupuncture treatment frequency was weaned to once per week and continued for another 5 weeks for a total of 27 sessions. She continued to have regular periods every 26–37 days without pain. Figure 1 shows the progression of her treatments, periods and CP schedule.

Table 1 summarises acupuncture points used for each session. Needling details of each point are described in box 1. Some Dong's extraordinary points and Zhu's scalp acupuncture points were used, and their locations and insertions are also listed in box 1.

OUTCOME AND FOLLOW-UP

After the period on DOT 29 (after 10 treatments), the patient continued to have monthly regular periods. The last day of regular weekly treatment was DOT 116, 91 days after CPs were discontinued, for a total of 27 treatments. After the last weekly treatment, over the 4-month follow-up period, she continued to have regular menstruation every 23–25 days, each period lasted 4–5 days using 4–8 not heavily soaked pads per day without dysmenorrhoea. Her DHEA-S remained high at 442. Because her periods had been regular, she stopped tracking them 4 months after treatments were discontinued.

DISCUSSION

Menstrual disorders are common complaints among adolescent girls. The most common cause is DUB from an ovulatory cycle resulting in irregular bleeding. After menarche, 50% of cycles are anovulatory in the first year. By the third year, 95% of cycles are regular in duration and not excessive in volume.³

There are many causes of abnormal uterine bleeding. DUB is a diagnosis of exclusion. The workup should rule out pregnancy, von Willebrand disease, thyroid dysfunction, uterine structural abnormalities, Polycystic Ovary Syndrome (PCOS) and other systemic, hormonal and coagulation dysfunctions.³

After other diagnoses have been excluded, the treatment method for DUB depends on its severity. Observation with a menstrual calendar is appropriate for mild cases, while hospitalisation with blood transfusion may be necessary for severe cases. For the vast majority of cases of moderate DUB, conventional treatment typically involves hormonal therapy and iron supplementation.

Different medical treatment regimens studied appeared to be equally effective.^{1–3} Conventional regimens consist of non-steroidal anti-inflammatory drugs, progestins, combined CPs, levonorgestrel Intrauterine Device (IUDs), danazol, tranexamic acid or analogues of Gonadotropin-releasing hormone (GnRH).

Two acupuncture treatments studies for delayed menstrual cycles have shown promising results as treatment for DUB.^{5,6} One study showed improvement of menstrual irregularities after 14 electroacupuncture treatments in PCOS patients, another study demonstrated a greater improvement (no treatment failures) by using 'mind tranquillising and menstruation regulating' needling technique, instead of traditional needling placement, every other day for three cycles.⁶

Acupuncture with or without medicinal herbs has been widely used for women's menstrual disorders in China and Taiwan for at least centuries. Modern research on its mechanism and efficacy

remains scarce. For selected patients, acupuncture can be an effective alternative treatment for women who suffer from DUB and/or dysmenorrhoea. Research of carefully controlled trials and randomised controlled trials on irregular bleeding to assess alternative and complementary medicine treatment effectiveness on menstrual heaviness and intervals are recommended.⁴

Patient's perspective

I started the acupuncture treatment for my problem with my doctor for a good period of time and my results were amazing! Now it all has been going really great. She helped me a lot, I appreciate her a lot for helping me after the main hospital couldn't. She could! I'm sure this treatment can help more girls with the same problem out there. Thank you doctor!

Learning points

- ▶ Menstrual disorders such as dysfunctional uterine bleeding and dysmenorrhoea are relatively common problems in adolescent girls, and non-pharmacological treatment options are often limited.
- ▶ This case shows that an acupuncture treatment based on a traditional Chinese medicine (TCM) diagnosis is an effective alternative to the more commonly used hormone therapy and is well tolerated with a prompt treatment response.
- ▶ Carefully controlled trials of treatments based on TCM diagnoses for irregular uterine bleeding to assess their effectiveness on bleeding heaviness and intervals are recommended.

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