

Successful conservative treatment of placenta accreta with traditional Chinese medicine

A case report

Huamin Huang, MA^a, Jialin Wang, MA^b, Keqin Li, BA^c, Hongbo Ma, MD^{c,*}

Abstract

Rationale: Currently, placenta accreta treatment mainly includes nonconservative surgical and conservative treatments such as Traditional Chinese medicine (TCM). This report describes the case of a 37-year-old woman who suffered incomplete placenta accreta after vaginal delivery and was cured by TCM. TCM treatment of placenta accreta has its own unique advantages, including low toxicity and few side effects, unaffected breastfeeding, and retention of the uterus, which can ensure the expulsion of residual placenta and be beneficial to patients' physical and mental health.

Patient concerns: Symptoms included a small amount of vaginal bleeding and occasional lesser abdominal pain. The patient showed lesser abdominal tenderness, a red tongue moss with petechial hemorrhage, and a hesitant pulse. The reproductive history was G3P2L2A1. In addition, the patient was afraid of having her uterus removed due to incomplete placental separation.

Diagnoses: The case was diagnosed as placental accreta. Ultrasound is the preferred method of diagnosis, and biomarkers, such as beta hCG, assist in screening for placental accreta. Doppler ultrasonography showed that in the bottom of the right uterine cavity, there was an uneven echo group of 7.6 × 4.6 cm, which was not clearly demarcated from the posterior wall; the muscle layer became thinner, with a thinnest part of 0.19 cm, and abundant blood flow signals were observed (Fig. 1). The beta hCG was 580.92 mIU/ml.

Interventions: The patient initially underwent curettage therapy 9 days after delivery, but it failed due to excessive intraoperative bleeding. The patient then turned to TCM treatment. The doctor prescribed a multi-herbal formula.

Outcomes: After 4 months, the residual placenta was expelled, and the patient's symptoms disappeared completely. No adverse and unexpected events occurred during treatment. During 3 months of follow-up, the patient had no abdominal pain, abnormal vaginal bleeding, or other complications.

Lessons: This study shows that TCM is safe and effective for treating placenta accreta, and it is worth recommending TCM as a conservative treatment along with other treatments. In practice, however, we find that the earlier TCM treatment is applied, the better the effect; therefore, early intervention with TCM is particularly important.

Abbreviation: TCM = Traditional Chinese medicine.

Keywords: conservative treatment, placenta accreta, TCM

Editor: Maya Saranathan.

HH, JW, and HM contributed equally to this work.

All procedures performed in this study were in accordance with the ethical standards of the Shandong Provincial Hospital ethics committee. Informed consent was obtained from the patient.

The patient has given informed consent and signed the following consent statement: I have been informed of the purpose, possible risks, and potential advantages. All my questions were answered satisfactorily. I voluntarily participated in this study and allowed the treatment process to be published in public without any disclosure of personal privacy.

The patient's informed written consent has been obtained for publication of this case report with associated images.

The authors have no conflicts of interest to disclose.

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

^a First College of Clinical Medicine, Shandong University of Traditional Chinese Medicine, Jinan, Shandong, ^b The Affiliated Hospital of Shandong Academy of Chinese Medicine, ^c Shandong Provincial Hospital Affiliated to Shandong University, Jingwuwei Road, Jinan, Shandong, China.

* Correspondence: Hongbo Ma, Shandong Provincial Hospital Affiliated to Shandong University, No. 324, Jingwuwei Road, Jinan 250021, Shandong, PR China (e-mail: dellamhb@sina.com).

Copyright © 2021 the Author(s). Published by Wolters Kluwer Health, Inc.

This is an open access article distributed under the Creative Commons Attribution License 4.0 (CCBY), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Huang H, Wang J, Li K, Ma H. Successful conservative treatment of placenta accreta with traditional Chinese medicine: a case report. *Medicine* 2021;100:7(e24820).

Received: 30 March 2020 / Received in final form: 24 January 2021 / Accepted: 29 January 2021

<http://dx.doi.org/10.1097/MD.00000000000024820>

1. Introduction

Placenta accreta is defined as the invasion of placental villi deep into the myometrium to varying degrees. Placenta accreta is often associated with factors such as endometrial injury, advanced maternal age, number of pregnancies, and increasing parity. It can result in massive hemorrhaging and the risk of complications, such as disseminated intravascular coagulation (DIC), multi-organ dysfunction, and/or failure and death.^[1] Currently, the treatment of placenta accreta mainly includes nonconservative surgical and conservative treatments, such as Traditional Chinese medicine (TCM).^[2] According to TCM, the pathogenesis of this disease involves impairment of the Chong and Ren Meridians, deficiency in the uterine collateral, placenta retention after childbirth, and uterine blood stasis. If not treated in time, placenta accreta may lead to secondary infections, perforation, or hemorrhaging of the pelvic cavity. Therefore, TCM is a

promising therapy for placenta accreta worthy of being promoted and implemented worldwide.

2. Case report

A 37-year-old pregnant woman with a history of 3 gravida, 1 parity, and 1 abortion, presented at 36 weeks and 2 days gestation with a vaginal delivery at Tai'an City Central Hospital on June 18, 2019. After delivery, she suffered from incomplete placental separation, accompanied by minor vaginal bleeding and occasional lesser abdominal pain. Ultrasound indicated an uneven echo group of 7.6×4.6 cm at the bottom of the right uterine cavity, which was not clearly demarcated from the posterior wall; the muscle layer became thinner, with a thinnest part of about 0.19 cm. Abundant blood flow signals were indicated (Fig. 1). Beta hCG was 2411.55 mIU/ml. The patient had been diagnosed with placenta accreta.^[3-4] The patient

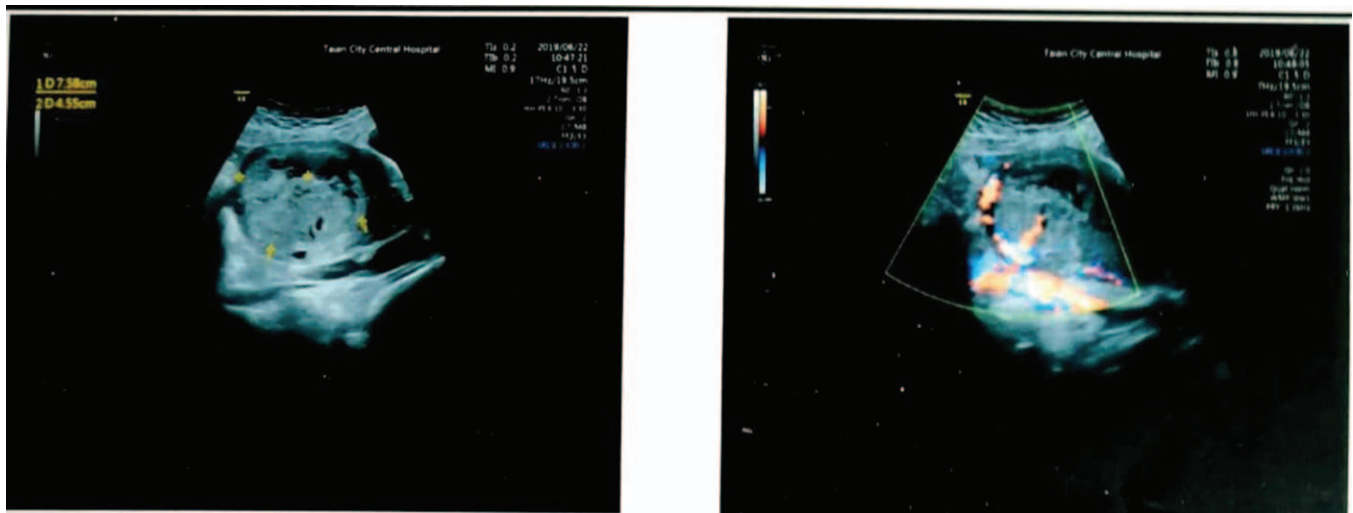


Figure 1. Ultrasound showing an uneven echo group of 7.6×4.6 cm in the bottom of the right uterine cavity, which was not clearly demarcated from the posterior wall. The muscle layer became thinner, with a thinnest part of about 0.19 cm. Abundant blood flow signals were observed.

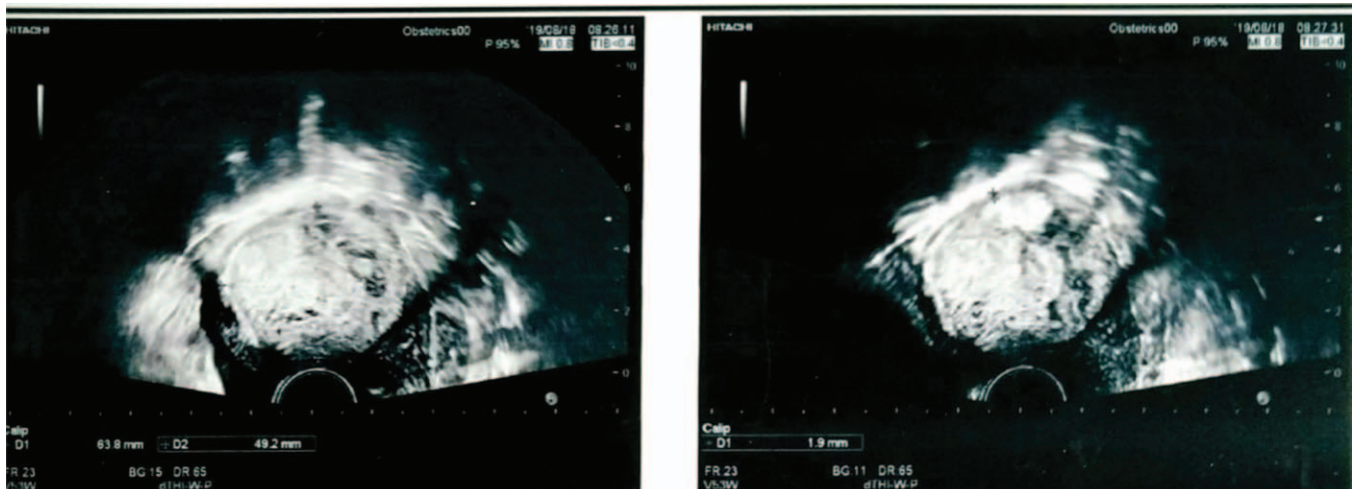


Figure 2. On the third day after curettage, ultrasound revealed an uneven echo group of $6.4 \times 4.9 \times 5.4$ cm in the bottom of the right uterine cavity, which was not clearly demarcated from the posterior wall. The muscle layer became thinner, with a thinnest part of about 0.19 cm. Punctate blood flow signals were observed.

2019-06-30 绒毛膜促性腺激素(HCG)
 标本条码号: 8006 泰安市中心医院生殖遗传科检验报告单
 病人种类: 门诊 姓名: 王 性别: 女 年龄: 37岁 样本号: 18 标本收到时间: 06-30 08:06
 病人编号: 0000000590 科室: 病区: 床号: 标本: 血 送检医生: 王

检验项目	结果	单位	参考值
人绒毛膜促性腺激素	227.49 ↑	mIU/ml	0--5

2019-07-16 绒毛膜促性腺激素(HCG)

检验项目	结果	单位	参考值
人绒毛膜促性腺激素	44.98 ↑	mIU/ml	0--5

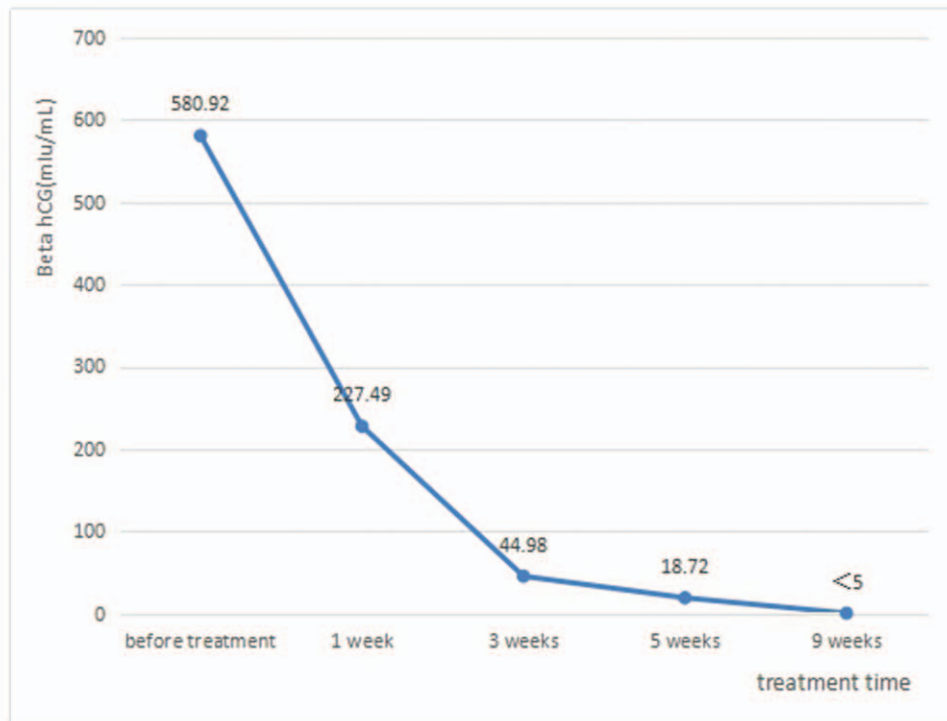
2019-07-30 绒毛膜促性腺激素(HCG)

检验项目	结果	单位	参考值
人绒毛膜促性腺激素	18.72 ↑	mIU/ml	0--5

年龄: 35岁 科室: 临床诊断: 送检时间: 2019/08/30

项目代号	项目名称	检验结果	标志	参考值
BHCG	人绒毛膜促性腺激素	<5		阴性0-5 mIU/ml 妊娠4-7W 590-187000 mIU/ml 8-11W 17800-328000 mIU/ml 12-20W 5380-183000 mIU/ml

A



B

Figure 3. (A). Beta hCG records during treatment. (B). Beta hCG decreases with treatment duration.

underwent curettage 9 days after delivery but had to be stopped due to excessive intraoperative bleeding. On the 3rd day after curettage, an ultrasound revealed an uneven echo group of $6.4 \times 4.9 \times 5.4$ cm in the bottom of the right uterine cavity, which was

not clearly demarcated from the posterior wall; the muscle layer became thinner, with the thinnest part about 0.19 cm, and punctate blood flow signals were indicated (Fig. 2). Beta hCG was 580.92 mIU/ml. The patient was lactating when she came to our

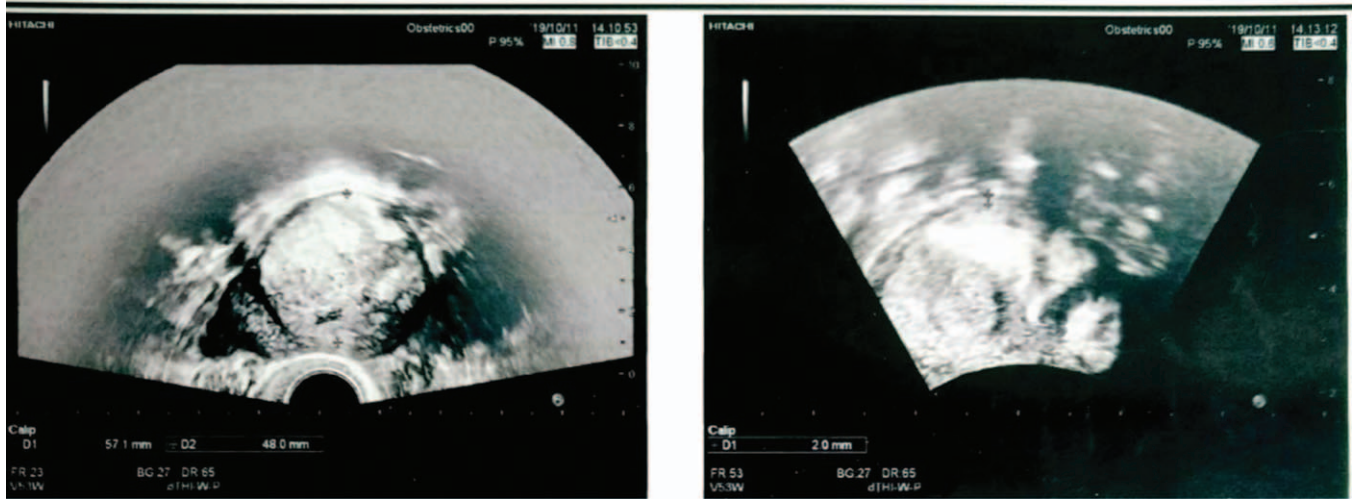


Figure 4. After more than 2 months of treatment, ultrasound indicated a $5.7 \times 4.8 \times 5.2$ cm uneven echo group at the bottom of the uterine cavity, with a strong local echo and no obvious blood flow signal; the outer edge was about 0.2 cm from the thinnest part of the serous layer.

hospital and expected conservative treatment. The symptoms were lesser abdominal pain and vaginal bleeding. The patient exhibited lesser abdominal tenderness, a red tongue moss with petechial hemorrhage, and a hesitant pulse. Therefore, a specific herbal formula was prescribed to eliminate the implanted placenta. The patient continuously took 1 dose per day, divided into 2 doses, of the medicine. The formula consisted of 15g Sparganii Rhizoma, 15g Curcuma Zedoary, 15g of Cortex Moutan, 15g Radix Paoniae Rubra, 15g Radix Salviae Miltiorrhizae-rhizae, 10g Eupolyphaga seu Steleophaga, 12g Radix Angelicae Sinensis, 12g Semen Persicae, 12g Flos Carthami, 15g Pollen Typhae, 12g Chuanxiong rhizome, 15g Radix Cyathulae, 30g Herba Taraxaci, 12g Rhizoma Anemarrhenae, 15g Radix Scutellariae, 12g Radix Ophiopogonis, 12g Radix Rehmanniae, 10g Carapax Trionycis, 20g Radix

Trichosanthis, 30g Herba Leonuri, 12g Semen Vaccariae, and 6g Medulla Tetrapanacis. After 1 week, vaginal bleeding stopped. Beta hCG was 227.49 mIU/ml. A month later, beta hCG was 18.72 mIU/ml. After more than 2 months, beta hCG was under 5 mIU/ml (Fig. 3). Ultrasound indicated a $5.7 \times 4.8 \times 5.2$ cm uneven echo group at the bottom of the uterine cavity, with a strong local echo and no obvious blood flow signal; the outer edge was about 0.2 cm away from the thinnest part of the serous layer (Fig. 4). Three months later, ultrasound showed that the thickness of the endometrium in the middle and lower segments was about 0.35 cm, and there was a 4.9×3.9 cm uneven echo group at the bottom of the uterine cavity, with a strong local echo and no obvious blood flow signal; the outer edge was about 0.24 cm away from the thinnest part of the serous layer (Fig. 5). After taking the medicine continuously for 4 months, the patient had

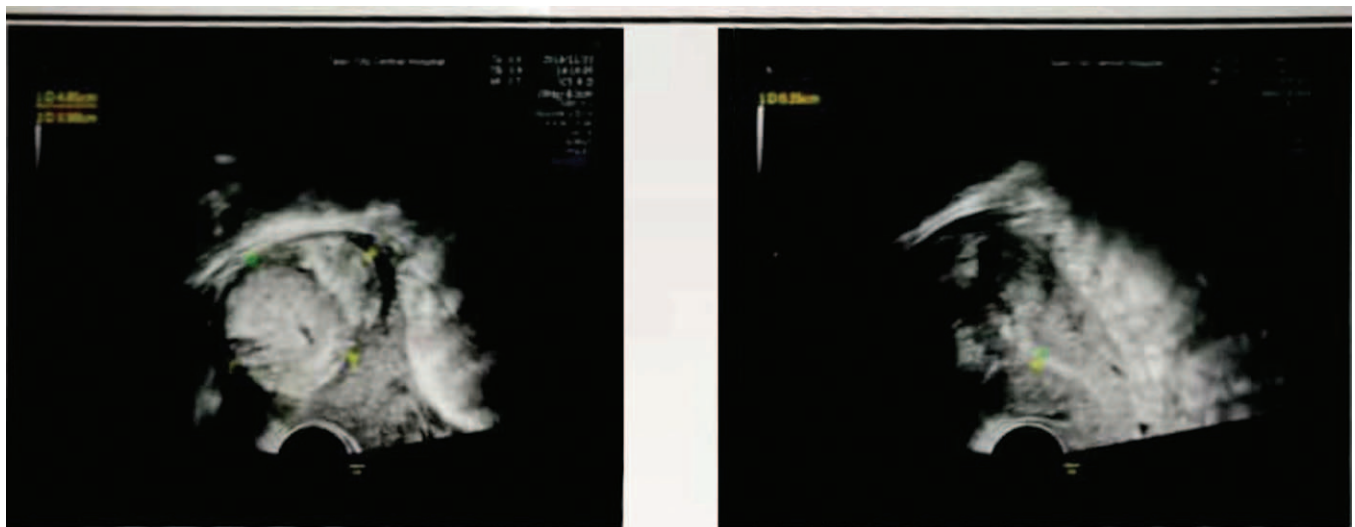


Figure 5. Three months later, ultrasound showed that the endometrial thickness of the middle and lower segment was about 0.35 cm, and that there was a 4.9×3.9 cm uneven echo group at the bottom of the uterine cavity, with a strong local echo and no obvious blood flow signal; the outer edge was about 0.24 cm from the thinnest part of the serous layer.



Figure 6. After taking the TCM continuously for 4 months, the placental tissue was expelled.

vaginal bleeding and paroxysmal abdominal pain, and the placental tissue was subsequently expelled (Fig. 6). No adverse and unexpected events occurred during the treatment. The doctor encouraged the patient to pay attention to their diet and maintain a positive attitude. After a 3-month follow-up, the patient had no lesser abdominal pain or abnormal vaginal bleeding.

3. Discussion

At present, there is no uniform standard for the treatment of placenta accreta. The protocol mainly includes nonconservative surgical treatments, such as hysterectomy, and conservative treatments. Cesarean hysterectomy is considered the gold-standard treatment for invasive accreta.^[5] It effectively guarantees the safety of the puerpera, although a loss of fertility may result. However, the risk of complications from hysterectomy has also been reported.^[6-7] Nowadays, most patients choose conservative treatments that preserve the uterus, which could preserve the fertility of patients and reduce psychological issues. Four different primary methods of conservative management have been described in the literature:

1. the extirpative technique (manual removal of the placenta);
2. the expectant approach (leaving the placenta in situ);
3. one-step conservative surgery (removal of the accretal area); and
4. the Triple-P procedure (suturing around the accretal area after resection).^[5]

Methodotrexate (MTX), a common adjunct to conservative treatment of placenta accreta, has been evaluated in some studies as having an additive effect in the conservative treatment of placenta accreta. However, there is not enough evidence about its efficacy and safety to recommend its routine use in all cases of invasive placenta.^[8] Due to an absence of other superior drugs, MTX is still widely used in clinical practice. In recent years, TCM has made some progress in the treatment of placenta accreta^[2] as a successful conservative treatment. This case report strongly supports the use of TCM to optimize the treatment of placenta accreta.

According to TCM, the pathogenesis of placenta accreta is due to the impairment of the Chong and Ren Meridians, deficiency in the uterine collateral, placenta retention after childbirth, and uterine blood stasis. Therefore, treatments involve removing blood stasis by promotion of blood circulation, clearing heat, and replenishing yin. The prescription is the E Leng Yuan Kun agent. Professor Keqin Li, a famous TCM expert from Shandong Province, created an empirical formula. The prescription was derived from modified amber powder, which was recorded in the Pu Ji Ben Shi Fang. It mainly consists of Stasis-Dispelling Blood-Quickening Medicinals and Heat-Clearing Toxin-Resolving Medicinals, which could promote the removal of residual placental tissue. Sparganii Rhizoma, Curcuma Zedoary, Cortex Moutan, Radix Paeoniae Rubra, Radix Salviae Miltiorrhizaerhizae, Eupolyphaga seu Steleophaga, Radix Angelicae Sinensis, Semen Persicae, Flos Carthami, Pollen Typhae, Chuanxiong rhizome, and Herba Leonuri are Stasis-Dispelling Blood-Quickening Medicinals; Herba Taraxaci, Rhizoma Anemarrhenae, and Radix Scutellariae are Heat-Clearing Toxin-Resolving Medicinals; and Radix Ophiopogonis and Radix Rehmanniae are Yin-Supplementing Medicinals. Studies of the molecular biology and pathology of placenta accreta suggest that inflammation and placental invasion may be closely related. Chronic basal inflammation combined with a failure of normal placental apoptosis appear to partially explain the underlying biology of invasive placentation with associated angiogenesis.^[9] Reports on placenta in situ have indicated that wide-spectrum antibiotics given after surgery are more effective.^[10] Stasis-Dispelling Blood-Quickening Medicinals can improve blood flow, promote the absorption of inflammatory exudate, and inhibit tissue dysplasia. Consequently, the absorption and expulsion of placental tissues are promoted.^[11] “Heat toxicity” can result in inflammatory reactions, which provides the theoretical basis for treating inflammation with Heat-Clearing Toxin-Resolving Medicinals.^[12] These medicinals have obvious advantages in reducing the risk of rebleeding and the use of antibiotics. Yin-Supplementing Medicinals can promote local blood circulation and are anti-inflammatory. Trichosanthin (TCS), an active component isolated from Radix Trichosanthis, can selectively damage placental trophoblasts. One study suggested that TCS could safely and effectively reduce levels of beta hCG, and that TCS could reach or exceed the success rate of MTX treatment.^[13] TCS could effectively reduce vaginal bleeding, accelerate the separation of the placenta from the uterine wall, and promote the expulsion of residual placental tissue.^[14] In addition, Semen Vaccariae and Medulla Tetrapanacis function to activate blood circulation to promote lactation. This herbal combination plays an important role in removing blood stasis by promoting blood circulation, clearing heat, and replenishing yin. In our practice, TCM has unique advantages for treating placenta accreta, including myometrium repair, placental villus tissue elimination, and infection prevention. Furthermore, there are fewer toxic side effects, and lactation is unaffected. Most importantly, the patient’s fertility was retained, which was conducive to their physical and mental health. However, TCM has 1 drawback: it may not taste good. Therefore, we could try to change the formulation. During treatment, we monitored beta hCG, reexamined the ultrasound, and closely observed changes in the condition. After about 4 months of treatment, the residual placenta was removed, and beta hCG was under 5 mIU/ml. Therefore, we concluded that TCM is an effective and safe treatment for placenta accreta and

worth recommending as a conservative treatment along with other medical interventions. In addition, we recommend early use of TCM therapy because the earlier it is used, the shorter the treatment time will be.

Author contributions

Hongbo Ma designed the research; Huamin Huang and Jialin Wang performed the research; and Huamin Huang and Jialin Wang wrote the paper. All authors have read and approved the final version for publication.

Data curation: Huamin Huang, Jialin Wang.

Investigation: Huamin Huang, Jialin Wang.

Methodology: Keqin Li.

Project administration: Hongbo Ma.

Writing – original draft: Huamin Huang, Jialin Wang.

Writing – review & editing: Hongbo Ma.

References

- [1] Silver RM. Placenta accreta spectrum: accreta, increta, and percreta. *Obstet Gynecol Clin North Am* 2015;42:381–402.
- [2] Huang X, Wu S, Li Y, et al. Evaluation and analysis of efficacy of TCM adjuvant therapy on placenta accreta. *Clin J Chin Med* 2017;9:94–5.
- [3] Jauniaux E, Alfirevic Z, Bhide AG, et al. Placenta praevia and placenta accreta: diagnosis and management, green-top guideline No.27a. *BJOG* 2019;126:e1–48.
- [4] Jauniaux E, Bhide A, Kennedy A, et al. FIGO consensus guidelines on placenta accreta spectrum disorders: prenatal diagnosis and screening. *Int J Gynaecol Obstet* 2018;140:274–80.
- [5] Sentilhes L, Kayem G, Chandraran E, et al. FIGO consensus guidelines on placenta accreta spectrum disorders: conservative management. *Int J Gynaecol Obstet* 2018;140:291–8.
- [6] Einerson BD, Branch DW. Surgical management of placenta accreta spectrum. *Clin Obstet Gynecol* 2018;61:774–82.
- [7] Zhao X, Tao Y, Du Y, et al. The application of uterine wall local resection and reconstruction to preserve the uterus for the management of morbidly adherent placenta: case series. *Taiwan J Obstet Gynecol* 2018;57:276–82.
- [8] Farasatinasab M, Moghaddas A, Dashti-Khavidaki S, et al. Management of abnormal placenta implantation with methotrexate: a review of published data. *Gynecol Obstet Invest* 2016;81:481–96.
- [9] Bartels HC, Postle JD, Downey P, et al. Placenta accreta spectrum: a review of pathology, molecular biology, and biomarkers. *Dis Markers* 2018;1507674Published online July 3. doi: 10.1155/2018/.
- [10] Kutuk MS, Ak M, Ozgun MT. Leaving the placenta in situ versus conservative and radical surgery in the treatment of placenta accreta spectrum disorders. *Int J Gynaecol Obstet* 2017;140:338–44.
- [11] Zhen HC. The pharmacological basis of the Huoxue Huayu theory. *Clin J Chin Med* 2019;11:34–5.
- [12] Jingying L, Yinglu R, Weiquan R, et al. Discussion on the significance of treating heart failure with clearing heat and removing toxicity from the inflammation. *J Tradit Chin Med* 2017;11:4901–5.
- [13] Xiang DJ, Chen LM, Gu JS, et al. Trichosanthin, a Chinese medicine for the medical treatment of ectopic pregnancy with high levels of (-hCG). *Reprod Sci* 2012;19:534–8.
- [14] Li J. Clinical analysis of uterine artery interventional embolization combined with trichosanthin in the treatment of placenta implantation. *Qinghai Med J* 2017;47:28–9.