

Drugs on Acupoint Shenque to Treat Postpartum Urinary Retention after Vaginal Delivery

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Abstract

Objective: To analyze the clinical effect of traditional Chinese herbs on acupoint shenque to manage postpartum urinary retention after vaginal delivery.

Methods: 47 women with postpartum urinary retentions following vaginal delivery from Haidian Maternal and Child Health Hospital (April 2011 to August 2011) were randomly divided into two sub-groups: Shenque acupoint group and intramuscular injection of neostigmine group, and then observed the effects of Shenque acupoint and neostigmine on urinary retention in the two groups.

Results: 61.89% patients in the neostigmine group had an immediate clinical response, while 100% response rate was observed in Shenque acupoint group ($p < 0.01$). Patients in the Shenque acupoint group had a significantly shorter mean voiding time when compared to patients in the neostigmine group ($p < 0.01$).

Conclusion: Shenque application is an effective option for women with postpartum urinary following vaginal delivery.

Introduction

Postpartum Urinary Retention (PUR) refers to transient urinary dysfunction due to various reasons within 6 hours of vaginal delivery, when some or all of urine cannot be evacuated from the bladder and residual urine volume is more than 150ml [1,2]. The incidence of PUR after vaginal delivery is variable ranging from 0.45% to 14.1%, reflecting the lack of a literature definition [1,3]. Risk factors for PUR include prolonged second stage of labor, episiotomy, perineal lacerations, and macrosomic birth, postpartum hemorrhage and postpartum urinary tract infection [2,4]. The common complications include infection, chronic voiding difficulties and renal failure [5]. The usual management of PUR includes general measures, pharmacological treatments, catheterization, acupuncture, habituation treatment [1]. Catheterization of the bladder is the commonest treatment for urinary retention and successfully empties urine from the bladder. However, the incidence of urinary tract infection was found to increase in patients who require multiple catheterizations or an indwelling catheter inserted [1]. Intramuscular injection of neostigmine is used in the clinical treatment of postpartum urinary retention, but the effect is frequently inadequate [1,6]. Acupoint application is a form of traditional Chinese medicine and moxibustion on Shenque (CV8) can be used as a noninvasive treatment of urinary retention after radical hysterectomy [7]. It confirmed that Ginger-salt-partitioned moxibustion at Shenque (CV8) is a safe and effective therapy for urination disorders post stroke [8]. Therefore, these results indicated that Shenque acupoint is closely associated with recovery of the bladder function. In this study, our primary objective is to evaluate the effect of traditional Chinese herbs deposited at Shenque acupoint on recovering bladder function in patients with PUR.

Materials and Methods

A randomized control study was performed of 47 patients with postpartum urinary retention following vaginal delivery in our hospital from 04/2011 to 08/2011. All patients were primipara, and were randomized to traditional Chinese herbs deposited at Shenque acupoint (Shenque acupoint) group and a neostigmine group. The study protocol was approved by the institutional review board in Haidian District Maternity and Child Health Hospital. All study participants provided written informed consent.

Shenque acupoint group includes a combination of 30g fresh ginger, 5g semen sojae praeparatum, 30g fistular onion stalker with root, and 5g salt. This preparation is applied to the navel and subsequently wrapped with a warm compress proving pressure for 30min once daily. The intervention was repeated half an hour later if necessary. Women in the neostigmine group

Table 1: Comparison of voiding time after treatments in Two Groups.

Group	Voiding Time after Treatment (min)
Shenque acupoint Group	34.84±10.64
Neostigmine Group	175.19±84.55
t=150.25	
p<0.001	

Table 2: Comparison of effective rate in two Groups.

Group	Number of Cases	Effective		Ineffective
		Cure	Improved	
Shenque acupoint Group	28	24 (85.71%)	4 (14.29%)	0
Neostigmine Group	19	10 (56.63%)	1 (5.26%)	8 (42.11)
X ² =14.208, p<0.001				

Table 3: Comparison of postpartum hemorrhage in Two Groups in 24 hours.

Group	Volume of postpartum hemorrhage (24 hours, ml)
Shenque acupoint Group	200±30.18
Neostigmine Group	215±32.29
t= -1.63	
p>0.05	

underwent intramuscular injection of neostigmine methyl sulfate injection 0.5mg once daily, which was also repeat half an hour later if necessary.

Treatments were considered to be:

- (1) Curative if patients were able to urinate within 1 hour after treatment.
- (2) Effective if patients were able to urinate within 1-3 hours after treatment.
- (3) Ineffective if patients could not urinate after 3 hours after treatment.

Statistical Methods SPSS17.0 was used for t test and X² test. p<0.05 was considered to be statistically significant.

Results

Overall 47 patients were included. The Shenque acupoint group included 28 patients, ages from 24 to 37, mean age (29.18 ± 3.04), gestational weeks (38.71 ± 0.93), 17 patients natural delivered, 11 forceps delivered. The neostigmine group includes 19 patients, ages from 26 to 35, mean age (30.84 ± 2.79), and gestational weeks (39.54 ± 1.04), 11 patients natural delivered, 8 forceps delivered. There was no significant difference between the two groups with respect to age, gestational weeks and mode of delivery.

Patients in the Shenque acupoint group had a significantly shorter mean voiding time of 34.84 min (range**.*) when compared to patients in the traditional neostigmine group who had a mean voiding time of 175.19 min (range**.*), p<0.001. See Table 1. Among the 28 patients, there are 15, 10 and 3 patients respectively who are able to urinate by self after 1, 2 and 3 treatments. The average of treatment times is 30min. The average number of treatment is 1.57 in Chinese medicine therapy.

Eleven of 19 patients were considered to have curative or effective outcomes in the neostigmine group while 24/28 patients were considered to have curative treatments in the Shenque acupoint group (p<0.001), Table 2.

There was no significant difference in the rate of postpartum hemorrhage between the two groups (p=**), see Table 3. We found there was no significant difference in the two groups.

Discussion

Postpartum urinary retention is common in primipara patients, those who have prolonged labor, and those who have perineal lacerations [2,5]. There are a number of factors that contribute to postpartum urinary retention including a compressed bladder neck for a prolonged period of time during delivery which can lead to tissue edema and nerve dysuria, a fear of urination due to pain leading to voluntary retention, and stress induced sympathetic nerve excitation, spasmodic contraction of urethral sphincter and increased tension due to delivery [2,9]. In this study, we compared the results of treatment between acupoint Shenque and neostigmine groups. We found Chinese medicine deposited at Shenque acupoint can effectively improve the postpartum urinary retention.

Disturbance of bladder function is a main issue for patients undergoing vaginal delivery, which may develop PUR. There are a number of methods to improve postpartum urinary retention such as moral encouragement, ambulation, privacy, and submersion in a warm bath [1,10]. If these methods are not effective, we often adopt acupuncture and moxibustion therapy in Chinese medicine. Alternatively, neostigmine and catheterization can be utilized. The mixture of herbs including ginger, semen sojae praeparatum, fistular onion and salt, when applied to the abdomen has the function of anti-oxygenation, anticoagulation and improving the contraction and dilatation of vessels to protect the integrity of cell membrane [11]. The mixture also can reduce the prostaglandin synthesis to reduce bladder pain. The combination of the four herbs has synergistic effects to inhibit edema, maintain local blood circulation, improve metabolic and anoxic conditions of ischemic tissue, and reduce the secretion of inflammatory factor to relieve and cure postpartum urinary retention [11,12]. On the other hand, Acupuncture or moxibustion on Shenque (CV8) achieves the significant efficacy on senile female bladder neck obstruction and recovery of bladder function in urinary retention [7,8,13].

In conclusion, we found that compared to intramuscular injection of neostigmine, acupoint is a simple, safe and effective treatment for postpartum urinary retention. This research offers a reliable clinical evidence for further evaluating traditional Chinese herbs deposited at Shenque acupoint to treat postpartum urinary retention.

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