

# Moxibustion in Breech Version – A Descriptive Review

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## Summary

The management of breech presentation at term remains controversial. It appears logical that maternal and perinatal outcomes would be improved if breech presentation could be avoided. External cephalic version is considered a safe procedure if cases are selected appropriately and anaesthesia avoided. Moxibustion is a traditional Chinese method of treatment, which utilizes the heat generated by burning herbal preparations containing the plant *Artemisia vulgaris* to stimulate the acupuncture points. It is used for breech version with a reported success rate of 84.6% after 34 weeks gestation. Moxibustion technique is cheap, safe, simple, self-administered, non-invasive, painless and generally well tolerated. Although many studies give encouraging results regarding the use of moxibustion in inducing cephalic version of breech presentation, a definitive conclusion cannot be made as most involve small sample sizes and are not randomised. Moxibustion could be an extra option offered to women with breech presentation along with vaginal delivery, caesarean section and external cephalic version. This article discusses the possible role of moxibustion in correction of breech presentation in the hope that, some interest will be stimulated in what is a very interesting area for future research.

## Keywords

Acupuncture, moxibustion, breech presentation, external cephalic version.

## Introduction

The incidence of breech presentation is about 20% at 28 weeks. Most of the foetuses turn spontaneously, so the incidence at term is 3-4%.<sup>1</sup> The management of breech presentation at term remains controversial. It has been widely recognized that vaginal breech delivery is associated with a higher perinatal mortality and morbidity when compared with vertex delivery.<sup>2</sup> 'The Canadian Term Breech Trial' has recently showed that perinatal mortality, neonatal mortality and serious neonatal morbidity were significantly lower for the planned Caesarean section group than for the planned vaginal birth group. There were no differences between groups in terms of maternal mortality or serious maternal morbidity.<sup>3</sup> It appears logical that maternal and perinatal outcomes would be improved if breech presentation could be avoided.<sup>2</sup>

External cephalic version (ECV) has been suggested to avoid vaginal breech delivery. It has been subjected to rigorous scientific appraisal in

six randomized controlled trials. ECV at term (37-42 weeks) results in significant reduction of both non-cephalic births and caesarian sections. It is recommended that all women with an uncomplicated breech pregnancy at term should be offered ECV.<sup>1,2</sup> However, experience of ECV has suggested two principal areas of concern: placental trauma resulting in either placental separation or foeto-maternal transfusion, or direct foetal trauma. Anaesthesia, as with operator inexperience and anterior placental site, may increase the potential for trauma of the placenta. Changes in the foetal heart rate immediately following ECV are common, usually transient bradycardias or decelerations, with no association seen between these changes and various foetal outcome measures. Therefore, ECV is considered a safe procedure only if cases are selected appropriately and anaesthesia avoided.<sup>2,4</sup>

There is increasing research to support the use of acupuncture in medicine, and indeed, in obstetrics and gynecology. Its use is being promoted by

organisations such as the British Medical Acupuncture Society, and as a result of patient demand. Because the mechanism of action is not fully understood in physiological terms, the treatments are considered by many clinicians to be of no value. This article reviews the possible role of moxibustion, a special acupuncture technique, in correction of breech presentation. The technique, mechanism of action, success rates as well as safety issues are critically discussed in the hope that, at the very least, some interest will be stimulated in what is a very fertile area for future research.

### **Moxibustion**

#### *Definition*

Moxibustion is a traditional Chinese method of treatment, which utilizes the heat generated by burning herbal preparations containing the plant *Artemisia vulgaris* (it is also called Mugwort or Moxa; the latter is derived from the Japanese *moe kusa* which means burning herb) to stimulate the acupuncture points. The technique consists of lighting a moxa stick and bringing it close to the skin until it produces hyperaemia due to local vasodilatation. The intensity of moxibustion is just below the individual tolerability threshold.<sup>5,6</sup>

#### *Technique*

The patient is usually in the comfortable sitting position for treatment, with her legs raised. She should be wearing loose clothes, especially over her abdomen. Two moxa-sticks, 1.5 cm in diameter by 20 cm length approximately, are lit by the therapist and held over the Zhiyin points of both feet at the same time. The Zhiyin point (67th or end point of bladder meridian; BL67) is located in the vicinity of the outer proximal corner of the toenail of the fifth toe. Sticks should be held still, and close enough to feel pleasantly warm but not uncomfortable (at a distance of 1.5 to 2.5cm). Treatment sessions last 15-20 minutes, once or ideally twice daily for 10 treatments. The patient may feel the baby start to move noticeably once the moxa sticks are applied. If significant movements were felt, treatment should be stopped and the therapist must check the baby's position. Moxa ignites very easily so precautions should be taken to put it out after use but not to allow the

sticks to get wet. Women can be instructed to undertake the moxibustion therapy themselves at home.<sup>7</sup>

#### *Mechanism of Action*

The mechanism of action of moxibustion is not entirely clear and warrants further research. It was postulated that moxibustion on the Zhiyin point causes adrenocortical stimulation, which results in increased placental oestrogens and changes in prostaglandin (PG) levels (increased PGF/PGE ratio due to reduction of PGE while PGF remains unchanged). Oestrogens increase myometrial sensitivity, which results in increased contractility in response to PGF. This stimulates foetal movements and makes version more likely.<sup>6,8-10</sup> The increase in foetal movements, and subsequently foetal heart rate is one of the most striking effects of moxibustion perceived by almost all women towards the second half of the stimulation period and persists even after the end of stimulation.<sup>6,8</sup> Stimulation performed in cases of intra-uterine foetal death failed to produce version.<sup>11</sup> This clarifies that this type of version relies on active foetal participation and any explanation based purely on segmental reflex action must be considered less likely.<sup>6,8</sup>

#### *Success Rates*

The encouraging results of two published Chinese studies are not convincing because they were not randomised, were based on a mixed population of primigravida and multiparous women, and treatment sessions were initiated between 28 and 36 weeks' gestation when spontaneous version is common. Therefore, no definitive conclusion can be drawn.<sup>12,13</sup> The Co-operative Research Group on Moxibustion reported that 1841 of 2041 (90.2%) patients with breech presentation given this treatment had spontaneous cephalic version. The success rate, in the 880 women who were given the treatment after 34 weeks, was 84.6%. Eighty six percent of the versions were achieved after one to four applications of moxibustion and the remaining 14% after five to ten applications. There was no significant difference between the therapeutic effects for primigravida and multiparous women. The correction rate was higher in patients with an average tension of the abdominal wall

than in those with high or low tension.<sup>13</sup>

Cardini and Weixin conducted an open randomised controlled trial,<sup>6</sup> which included 260 primigravidae in the 33rd week of pregnancy with breech presentation diagnosed by ultrasound scan. Half of these women were randomised to the intervention group and received stimulation to the Zhiyin point with moxa for seven days. They were given treatment for an additional seven days if the foetus was still in the breech position. The other 130 women were randomised to the control group and received routine care but no intervention. Subjects with persistent breech in both groups could undergo ECV at any time between 35 weeks' gestation and delivery. In one-hour observation period daily for seven days during the 35th week of gestation, the intervention group experienced a mean of 48.45 foetal movements compared with 35.35 in the control group ( $p < 0.001$ ). Of the 130 fetuses in the intervention group, 98 (75.4%) were in a cephalic presentation compared with 62 (47.7%) in the control group ( $p < 0.001$ ). Despite the fact that 24 subjects in the control group and one subject in the intervention group underwent ECV, 98 (75.4%) fetuses in the intervention group were in a cephalic presentation at birth versus 81 (62.3%) in the control group ( $P = 0.02$ ). As a secondary observation, it was noted that 82 of the 98 cephalic versions in the intervention group were obtained during the first week and 16 during the second week of treatment. After the 35th week all remaining breech presentations remained unchanged, except for the 19 successfully treated with ECV.

Nonetheless, this trial has been criticised because of lack of blinding and placebo. It has been argued that in an open trial of any therapy versus no therapy, patients receiving the treatment may adopt behaviours different from those not receiving it. This would effectively abolish the effect of randomisation since the groups would differ in more respects than just the intervention.<sup>14</sup>

#### *Safety Issues*

Moxibustion is cheap, non-invasive, painless, generally well tolerated, simple and self-administered.<sup>14,15</sup> Nonetheless, it has been reported that the smoke from burning the moxa herbal preparation can rapidly irritate the upper and

lower respiratory tracts. This could affect the patients, the attendants, or the therapist. Individuals with respiratory diseases such as allergic rhinitis and asthma could experience aggravation of their symptoms.<sup>15</sup> Also, moxibustion can cause burn blisters. There is a possibility of permanent scar from the procedure. Wong et al encountered individuals with residual lesions from prolonged and repeated indirect moxibustion in addition to direct burning of moxa on the skin.<sup>16</sup> It is not known if in-utero exposure to moxa smoke would have any harmful effects.<sup>15</sup>

On the other hand, Cardini and Weixin reported that they have never found respiratory disease, allergic rhinitis or asthma to be associated with moxibustion over 30 years of clinical practice.<sup>17</sup> Also, no unintentional burning, placental abruption or intrauterine foetal demise among the participants in their randomised controlled trial was observed. In addition, the number of cases with spontaneous rupture of membranes was similar in both treated and control groups.<sup>6</sup>

#### *Conclusion*

Although many studies give encouraging results regarding the use of moxibustion in inducing cephalic version of breech presentation, a definitive conclusion cannot be drawn from the evidence to date. Most of the trials have been small and they have not been randomised. Little information has been provided about the population samples, and treatment has been initiated at a gestational age ranging from 29 to 36 weeks. Nevertheless, moxibustion appears to be safe and effective, and it could be offered to women with breech presentation prior to the more expensive and potentially more risky procedure of external cephalic version. Trials comparing the safety and effectiveness of moxibustion and external cephalic version would now be opportune.

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