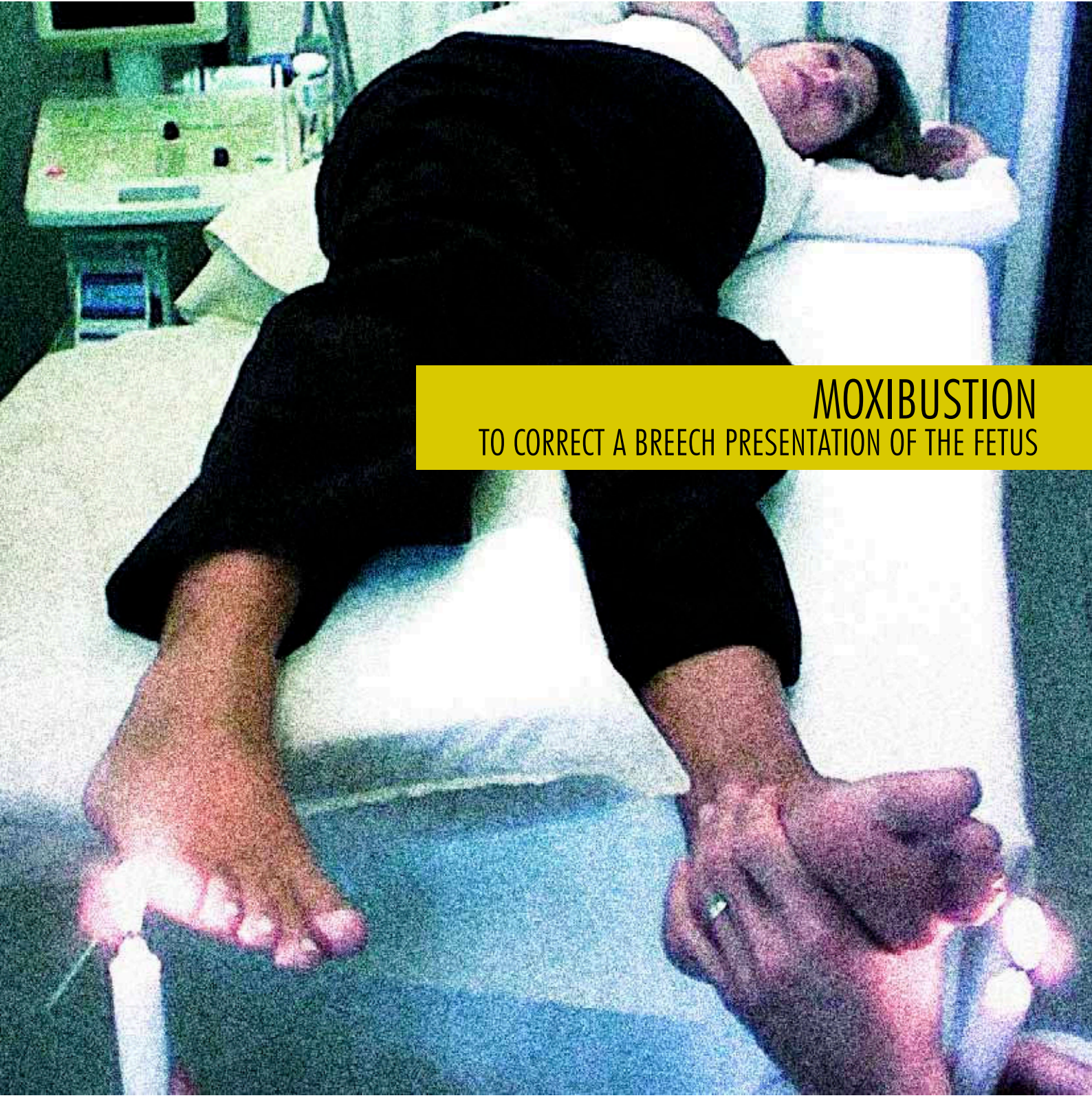

MOXIBUSTION
TO CORRECT A BREECH PRESENTATION OF THE FETUS

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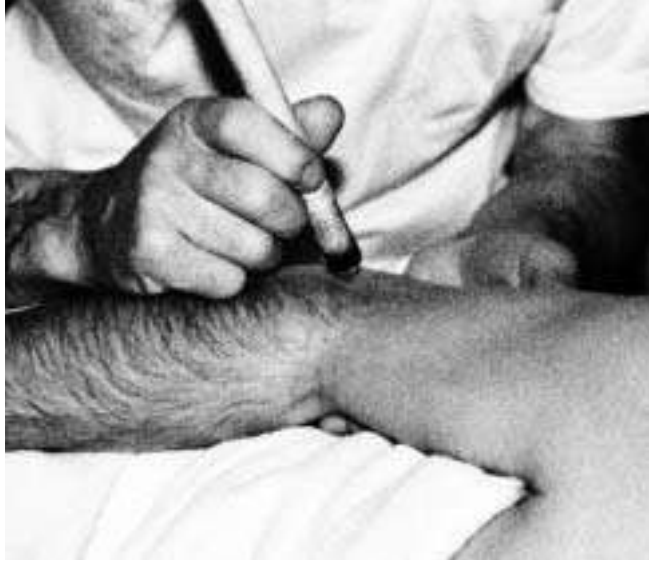
Text written by Sonia Baccetti and Elio Rossi

Introduction



It has been estimated that the frequency of breech presentation is between 3 and 4% of all pregnancies that reach term (Hickok DE et al., 1992). It is associated with a greater risk of perinatal and neonatal mortality and morbidity. The risk can be reduced if it is possible to turn the fetus round by means of external cephalic version (ECV), which is achieved by placing the hands on the woman's abdomen and applying external force. However, this procedure is not without risk and can only be performed in hospital. In the majority of cases a caesarean section is performed.

For thousands of years, the Chinese have used acupuncture to treat their ailments and, in cases of breech presentation, they practise moxibustion. Moxibustion is one of the techniques of traditional Chinese medicine which works by applying heat stimulation to the same points as those used in acupuncture. Heat is generated by burning a herb, artemisia vulgaris. The term is derived from the Japanese name for this herb – moxa. First the artemisia is pressed and dried and then it is rolled in paper mulberry which smoulders once lit.

Moxibustion is a technique that is simple, effective, safe and generally well tolerated by both mother and newborn. It is very cheap, easy to learn and can be practised by any health worker. In cases of breech presentation, together with external cephalic version, it may therefore be a useful alternative to a caesarean section.

Moxibustion is an integral part of Traditional Chinese Medicine (TCM) and is widely practised in China where it has been calculated that 500 million people use acupuncture.

In many European countries, in particular in England, France and Germany, moxibustion and acupuncture are treatments that are fully integrated into the respective national health services. These practices are also widespread in Italy, where many public and private centres offer this service to users and are conducting further studies on the efficacy of these methods. ivados ofrecen este servicio a los usuarios y llevan a cabo estudios posteriores sobre la eficacia del método.

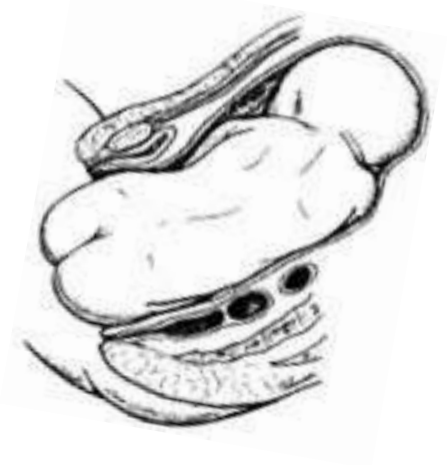
The World Health Organisation lists breech presentation (Malposition of fetus, correction of) as one of the pathologies, symptoms or conditions for which the effectiveness of acupuncture (moxibustion) has been proven by controlled clinical trials.

The Jiangxi Women's Hospital of Nanchang in the People's Republic of China, has done the most to publicise this method by means of a first randomised controlled clinical trial. The study was published in 1998 by J.A.M.A., the prestigious review of the American Medical Society. The work of scientific convalidation was coordinated by Professor Huang Weixin and Professor Francesco Cardini.

What problem does it solve?

It is known that when a fetus presents in the breech position and a caesarean section is not performed, perinatal morbidity is 12 times greater, and perinatal mortality is 3 times greater than in normal presentation.

In a recent multicentre trial carried out in 26 countries on a sample of 2083 women, perinatal and neonatal mortality and serious neonatal morbidity were significantly lower in the group with caesarean deliveries than in the group with vaginal deliveries (Hannah, 2000). From the 1970s on, in both Europe and America, breech births by vaginal delivery were declining and being replaced by caesarean deliveries. In some countries, replacement reached 90–100%. In Tuscany (Italy) in 1999, out of 1,058 breech presentations, there were 66 vaginal deliveries (6.2%), 987 caesarean births (93.2%) and one delivery with the aid of a ventouse (in 4 cases, the kind of birth was not recorded).



Not all authors agree on the generalised choice of a caesarean delivery in cases of breech presentation because they consider that this technique has not improved neonatal prognosis and has increased the risk of complications for the mother.

The frequency of breech presentation varies according to the stage of pregnancy. It is more frequent at the earlier stages (20-25% in the 28th week, 12% in the 31st–32nd week, and 7% at the 35th), whilst the frequency at term falls to 3–4% (Curiel P. 1996).

The causes of breech presentation at term are known in only 15% of cases and are due to uterine, pelvic and fetal anomalies, reduction of the amniotic fluid or the presence of fibroids (Curiel P. 1996; Hughey MJ. 1985).

In 1985 Westgren and other authors conducted a prospective survey in which an ultrasound scan was used to assess fetal position in the 32nd week of 4,600 pregnancies. In 310 cases the fetus was in the breech position. The progress of these 310 pregnancies were then followed with a weekly ultrasound scan until the time of birth to monitor the spontaneous version of the fetus. The fetus turned spontaneously in about 46% of the primagravidas, in 32% of the multigravidas with a previous breech delivery and in 78% of the multigravidas with no history of a breech delivery.

As an alternative to a caesarean section, an external cephalic version (ECV) is generally recommended to turn the fetus. The success rate of this technique varies according to author and case histories. The positive data given in the literature vary from 41% (74 cases examined) to 97% (30 cases) concentrated nevertheless around 60-70% in studies on a higher number of cases.

Generally, external cephalic version cannot be carried out before the 36th–37th week, with some contraindications such as multiple pregnancy, placenta previa, uterine bleeding, fetal malformations, rupture of the amniotic sac, an anomalous cardiotocograph, diabetes and maternal hypertension, oligohydramnios, a previous hysterotomy, and retarded growth. The success rate is influenced by gestational age, parity, the quantity of amniotic fluid, the position of the placenta (more successful in the fundic or lateral position), the degree of entry of the breech, fetal weight, type of presentation, position of the fetus' back, and amount of maternal abdominal fat.

Nevertheless some authors have some reservations about the use of external cephalic version related to possible complications such as detachment of the placenta, premature rupture of the membranes, knotting of the umbilical cord, uterine bleeding, and the reduction of the fetal heartbeat. When it is transitory, this latter event is not considered to be a complication by other authors who consider it a response to the momentary reduction of the utero-placentary flow. The possibility that complications may arise, independently of their frequency, means that external cephalic version must be performed in a hospital equipped to deal with an urgent caesarean section if necessary.

In economic terms, the caesarean sections cost more than vaginal deliveries. While a patient who has had a normal birth is usually discharged on the second or third day, a woman who has had a caesarean section may have to stay in hospital for up to 15 days. The social costs of a generally traumatic event for the mother and her family and the organisational problems that may be caused by a long stay in hospital must also be taken into account. Furthermore, in countries where hospital conditions are not very good, women in labour are exposed to the risk of contracting other diseases, in particular post-operative infections.

For these reasons, it is extremely important to find practical and sustainable solutions to avoid the need for caesarean deliveries in the case of breech presentation.

One possible solution is the use of acupuncture and, in particular, moxibustion.

In a controlled clinical randomised open trial conducted in China (Cardini et al. 1998), the efficacy of moxibustion was evaluated in 260 women with breech presentation in the 33rd week and compared with a control group who did not receive this treatment. In the 35th week the success rate was 75% in the intervention group, while in the control group 48% of the fetuses were in the vertex position. Although 24 women in the control group and one woman in the intervention group underwent ECV, at the time of birth 75% of the intervention group were cephalic against 62% of the control group. The difference between the two groups is statistically significant.

At the moment, randomised clinical trials are under way in the West and these are producing results that partially overlap those obtained in China, with significantly higher effectiveness rates compared with the control group, even if the results of the trials carried out on Chinese women gave better results. The difference is probably due to different cultural attitudes in the East where this kind of treatment is widely accepted.

MOXIBUSTION in practice

Moxibustion is a therapy based on the heat stimulation of acupuncture points. In traditional Chinese medicine, moxibustion is used on patients suffering from lack of energy, stagnation or cold. It is thought that moxa favours better circulation of the blood and vital energy thus fighting the causes of the illness.

Heat is generated by burning a herb, artemisia vulgaris, whose Japanese name, moxa, is the source of the term in use. Artemisia is first pressed, dried and then rolled in mulberry paper which smoulders once lit.

Artemisia belongs to the family of composite tubuliflores. It grows spontaneously in most of the northern hemisphere and there are about 200 species. Artemisia vulgaris is found in Europe. For example, in Italy there are about 20 species of artemisia. It grows on uncultivated land and on road verges. The artemisia sticks used for moxibustion can be imported from China, but if necessary any other kind of heat can be used. Data from the literature confirm that moxibustion using artemisia produces the same effect as heating the points by laser and that, in clinical practice, use is sometimes made of a lighter, a candle, a cigarette, a cigar and so on.

HOW TO USE MOXA

With a match or a lighter, you light one end of the stick and blow on it so that the whole section is incandescent and smoulders uniformly. With caution, the incandescent tip of the stick is brought close to the carefully localised point to be treated, ensuring that you hold the stick in a perpendicular position and at a distance of about 3-5 centimetres from the skin. The distance depends on how much heat you want to transmit and the energetic constitution of the patient. In the case of a breech presentation, the points to be heated are located beside the outer corner of the fifth toenail, bilaterally.

In this way, the patient will feel the heat penetrate gradually causing a pleasant sensation that will intensify until it becomes unpleasant. The stick is then withdrawn for a brief pause and then the operation is repeated. The procedure must be repeated several times until the point of application becomes warm or hot and begins to turn red. This can take from a few minutes to a few hours when a patient's lack of energy is particularly serious. In the case of malposition of the fetus, this heat treatment lasts twenty minutes (with some differences according to author).

Once the application has finished, the artemisia stick must be extinguished (never in water because traditionally artemisia used to be dried for seven years) by suffocating the heat source, for example by placing it in a small bottle only slightly bigger than the stick, or else by cutting off the lit part (it continues to burn in sand). Whatever method is chosen, it is important to check that the artemisia stick is not still smouldering before putting it away. It is advisable to air the room before and after the treatment..

In the case of a breech presentation, it is thought that moxibustion works as a result of a documented increase in fetal activity.

Various authors agree that the number of previous births and the stage of pregnancy are important factors in the success of this method. The treatment is more effective in women expecting their first child and when it is performed early on, preferably between the 32nd and 34th week..

The technique described can be performed on women who do not present any contraindications and who have accepted to undergo this treatment, signing the relevant informed-consent form.

Moxibustion treatment, as offered by the health services in Tuscany, is given over a maximum of six sessions, all done in the same way, and can be carried out by specially trained medical or paramedical staff.

The procedure is carried out as follows:

- With the woman lying down on the bed on one side (according to preference) and with her hips slightly forward, supported with the aid of a pillow if necessary, two operatives apply heat bilaterally to acupoint BL67 situated on the little toe. The smouldering stick must be held for 20 minutes as near as possible to the skin, without causing a blister, but producing redness. The ambient temperature should be 22°C.
- The treatment is repeated six times over a maximum of nine days, not at set times.
- Before each treatment, the heartbeat must be monitored (position and rate) and where possible an ultrasound scan should be done to determine the position of the fetus. This allows an assessment of when the fetus turns in relation to the number of treatment sessions. The data are recorded on the patient's medical record.

The treatment must be interrupted in the following circumstances:

- if the ultrasound scan shows that the fetus has turned;
- if painful abdominal contractions begin during or after the session;
- if the woman becomes pale or there her blood pressure falls - in this case, besides interrupting the treatment, the room should be aired, the patient's feet raised above the level of her head, and her pulse rate and blood pressure should be monitored;
- the appearance of obstetrical changes which make it advisable to interrupt the treatment.

Results

Since the early 1990s, studies have been carried out in China documenting the effectiveness of moxibustion in correcting a malpositioning of the fetus (Li et al. 1990; Li et al. 1996).

The first randomised controlled study was conducted by Cardini and Weixin in 1998, on 260 women with breech presentations in the 33rd week of gestation.

Half of the women were treated with stimulation of acupoint BL67, with an artemisia stick placed close to the skin for about 15 minutes. The treatment was given once or twice a day for seven days. This stimulation increased fetal activity (48 against 35 movements an hour). By the 35th week, 75% of the babies treated with moxibustion had turned, while only 48% of the control group had done so.

If in the 35th week, the babies were still in the breech position, the women in both groups could choose to undergo external cephalic version (ECV) which led to a further 19 babies turning round. The newborns from the treatment group had an Apgar rating at birth that was significantly better than those in the control group. On the basis of these data, the authors concluded that moxibustion between the 33rd and the 35th week of gestation, followed by ECV in the 35th week if the baby remained in the breech position, is an effective approach to correcting a breech presentation of the fetus.

In 2001 Kanakura Y.et al. conducted a similar study on a group of 357 women of whom 224 made up the control group and 133 the group to be treated by moxibustion. The fetus turned in 92.48% of the treated group, and in 73.66% of the control group. This was a significant difference ($P < 0.0001$, x 2 tests).

On the basis of these encouraging results, some clinical trials began in Italy and other European countries to confirm the efficacy of treatment with moxa to correct a breech presentation of the fetus.

At the Centre for Traditional Chinese Medicine of the Florence Health Service, in collaboration with the Regional Health Agency for the Tuscany Region and the Florence Hospital Service, in the period 1997-2001 a pilot study was carried out (in the consecutive observation mode) on 189 women with a breech presentation and gestational age of between the 32nd and 37th week. The women came forward for treatment voluntarily or were invited to do so by health personnel.

The importance of this study lies in the fact that it was the first of its kind to be carried out in the West and it used a fairly large sample of patients. Recruitment of the patients was achieved by systematically offering the treatment to women who met the protocol conditions.

The technique employed consisted in a first cycle of bilateral stimulation (from one to three times during one week, according to result) of acupoint BL67 with an 0.32 x 0.40 needle heated with a candle. In the case of a negative result,

demonstrated by ultrasound scan, a second treatment cycle was carried out (from one to three times during one week, according to result) heating the same acupoint with an artemisia stick . Stimulation was carried out by trained personnel at the Centre.

Prior to each treatment session, the position of the fetus was determined by a manual examination of the abdomen and the fetal heartbeat was monitored with a Multidoppler machine (model: ES-107 PZ Hadeco).

Treatment was completed when the cephalic position was achieved, demonstrated by an ultrasound scan, or after six sessions with no success. The result was evaluated on the basis of the last ultrasound scan and presentation at birth.

The sample comprised 125 nulliparas (88% Italians, 4% Chinese and 8% of other nationalities) and 64 primi-multiparas (75% Italians, 14.1% Chinese and 10.9% of other nationalities) with an average age, respectively, of 31 years (DS 4.6) and 33 (DS 4.0).

Cephalic version was obtained in 106 women (56.1%) with a greater degree of effectiveness in the primi-pluriparas (75%) than in the nulliparas (46.4%), in line with other studies on the subject. When treatment was carried out in the 32nd–34th week the fetus turned in 68% of cases, while between the 35th and the 37th week the result was 41%.

In all cases but three, the cephalic position was maintained up to delivery. External cephalic version was practised on 22 women and was successful in 14, while in 8 cases, the fetus remained in the breech position. Comparing the success obtained in the group of nulliparas and primi-multiparas women, in the latter, the success rate was five times higher. If the mother is aged under 34 years and this treatment is given before the end of the 34th week, there is a significantly increased possibility that the fetus will turn into the cephalic position. The results of this study are currently being prepared for publication.

The team at the S. Martino Gynaecology and Obstetrics Clinic in Genoa have also published some data showing that the technique was successful in 60% of cases receiving this treatment. **In Belluno** the study group of the Feltre Civil Hospital showed a substantial difference in the turning rate for primagravidas treated with moxa: 54.5% compared with the untreated control group's 28.5%.

In Turin, a randomised multicentre trial is currently under way, coordinated by the Maternal-Fetal Medicine Operating Unit of Turin University.

WARNING

When applying this method, it should be borne in mind that artemisia smoke can create problems for patients with respiratory difficulties. In these cases, special cigars can be used that produce little or no smoke. Recently, it has been reported that, occasionally, there is an increase in uterine contractions after the treatment. Nevertheless, none of the studies published to date has indicated any tendency to premature delivery.

International interest

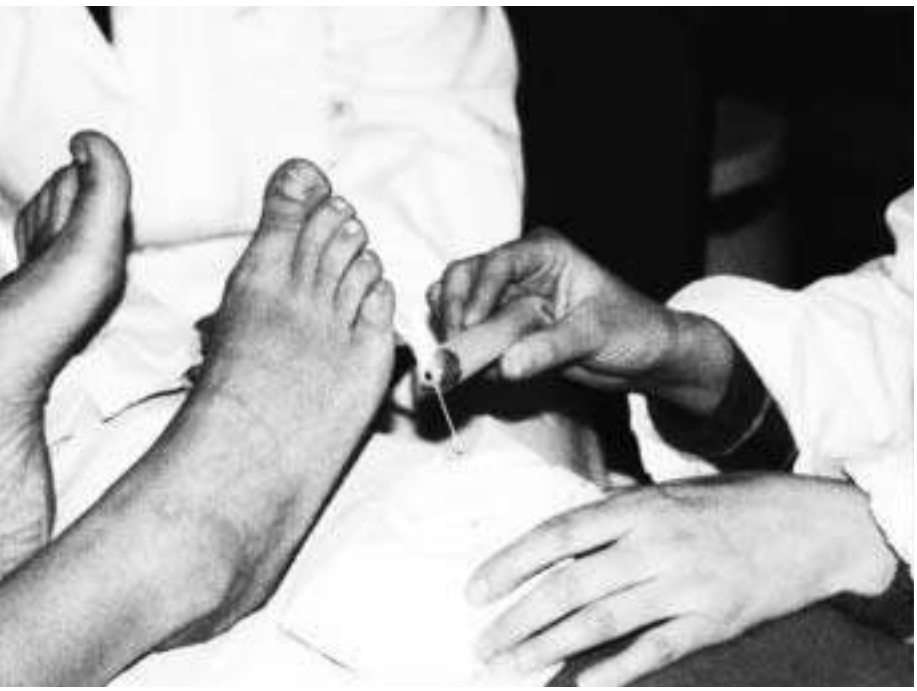
Moxibustion is an integral part of Traditional Chinese Medicine (TCM) and is widely practised in China.

As in China, acupuncture and moxibustion are also common in all the countries of the Indo-Chinese peninsula, in particular in Vietnam, Japan and all across Asia.

Starting in the East, the practise has spread in modern times to Europe and throughout the entire American continent. The method is also known In many Latin American countries even if it is not all that common.

In Europe there has been a constant growth of interest in non-conventional or alternative therapies. The search for a more natural approach to birth without the use of invasive therapies is today part of a new and widespread health culture. In many European countries, in particular in France and Germany, moxibustion and acupuncture in general are treatment practices that have been fully integrated into the respective national health systems.

The World Health Organisation supports the use of moxibustion in cases of breech presentation of the fetus: "various methods of acupuncture,



such as pressure at ear points (auricolotherapy) and moxibustion at zhìy_n (BL67) or zúlínqí (GB41), have been used to correct abnormal fetal position during the last three months of pregnancy. The success rates in groups treated with these methods were much higher than the occurrence of spontaneous version or in groups treated with knee-chest position or moxibustion at non-classical points" (Acupuncture: Review and analysis of reports on controlled clinical trials WHO Geneva, 2002).

Furthermore, WHO also lists breech presentation (Malposition of fetus, correction of) as one of the pathologies, symptoms or conditions for which the effectiveness of acupuncture (moxibustion) has been proven by controlled clinical studies.

Adopting MOXIBUSTION in other countries

The use of moxibustion in cases of breech presentation of the fetus is simple to learn and practice. What is more, it can be applied easily in different cultural contexts even if these differences may influence the effectiveness of the treatment.

It is certainly important that the method be applied in a hospital environment, but it is also possible in other circumstances with the assistance of medical and paramedical personnel who have received the necessary technical training.

Operatives and patients should be given basic information about the main principles of Traditional Chinese Medicine and its philosophy. Patients must be informed of the possible need for a caesarean section if treatment is not successful.

To encourage the use of the method in other countries, the Centre for Traditional Chinese Medicine, Fior di Prugna (part of the Local Health Agency no. 10 of Florence) is available to carry out intensive courses, at its own centre, for operatives from interested countries. The Centre is also willing to provide technical assistance and training for structures in other countries that intend to include this method in their own health services. The procedures for such a collaboration can be agreed by the interested parties.

The Traditional Chinese Medicine Centre Fior di prugna, in particular, is willing to provide technical assistance to:

- promote the knowledge and application of the method at its reference centres in the interested countries;
- assess the results and see to what extent the method could be reproduced in different social, health and cultural contexts;
- contribute to training the operatives and to organising antenatal services.

The countries and structures who would like to adopt the method can in any case request the help of WHO which, on the basis of trials on its efficacy to date, considers moxibustion to be one of the practices of proven effectiveness demonstrated with RTC.

To learn more

The hospital that developed the traditional knowledge, defined the procedures and carried out the study published in the important international scientific journal JAMA, is the Jiangxi Women's Hospital in the People's Republic of China. The referent for the clinical study is Prof. Huang Weixin.

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Who to contact

The operating structure of reference that can provide interested countries with the management of the entire process of information transmission from teaching the method to procedures for checking clinical data, is the:

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Operatives at the Fior di Prugna Centre of the Florence Health Agency no. 10 are available to carry out training activities for personnel in the health structures of other countries who are interested in adopting the moxibustion method.

The IDEASS Programme – Innovation for Development and South-South Cooperation – is part of the international cooperation Initiative ART. IDEASS grew out of the major world summits in the 1990s and the Millennium General Assembly and it gives priority to cooperation between protagonists in the South, with the support of the industrialised countries.

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In the interested countries, ART promotes and supports national co-operation framework programmes for Governance and Local Development - ART GOLD. These Programs create an organized institutional context that allows the various national and international actors to contribute to a country's human development in co-ordinated and complementary ways. Participants include donor countries, United Nations agencies, regional governments, city and local governments, associations, universities, private sector organizations and non-governmental organizations.

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