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ORIGINAL ARTICLE

Acupuncture for the treatment of vulvar vestibulitis: A pilot study

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Background. The study was conducted to obtain a preliminary indication of the effectiveness of acupuncture in the treatment of vulvar vestibulitis but also to obtain information how well the women tolerate the treatment.
Methods. Fourteen young women with vulvar vestibulitis according to Friedrich's criteria were enrolled in the study and 13 fulfilled the acupuncture treatment a total of 10 times. For evaluation quality of life (QOL) assessments were made before starting the treatment and then at one week and at three months after it was completed.
Results. The treatment was well tolerated and the QOL measurements were all significantly higher after both the last acupuncture and three months later, compared to before the treatment was started.
Conclusion. The results seem promising, but a larger controlled randomized study should be carried out before the treatment can be recommended for use in clinical practice.

Key words: acupuncture; quality of life assessment; vulvar vestibulitis

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Being both painful and psychologically distressing for the women involved, vulvar vestibulitis is a therapeutic challenge to physicians. It was described by Friedrich in 1987 (1) as a condition with severe pain on vulvar penetration, tenderness on pressure in vestibulum with a cotton tipped applicator, and vestibular erythema. The definition often calls for a duration of at least six months. It is regarded as the most common subtype of vulvodynia, which also includes cyclic vulvaginitis, vulvar dermatosis, and dysestetic vulvodynia (2–4). The etiology of vulvar vestibulitis is still unknown but most probably is multifactorial (5–9). This has been exhaustively discussed in a previous paper (10). Medical (9, 11), surgical (1, 2, 12, 13), behavioral (14), and psychosexual (8) therapy as well as surgery combined with behavioral therapy (15) have all been tried, with varying success. Vulvar vestibulectomy is most consistently reported as providing the best therapeutic result (16) but most of the published studies have been conducted without controls (17). Since many women are still not cured, new methods are urgently needed (18–20).

Some review articles have argued that vulvar vestibulitis should be regarded as a chronic pain syndrome (17, 21, 22). Bergeron et al. (17) thus propose testing various treatments for chronic pain conditions and suggest acupuncture as a possible alternative, since it has been successful in other chronic pain conditions. Acupuncture has been suggested earlier (23) but, to the best of our knowledge, no studies of acupuncture treatment of vulvar vestibulitis have yet been published. The effectiveness of acupuncture treatment in chronic pain conditions is still controversial, even if it is widely used in both the United States and Europe. In the report from the National Institute of Health's

Abbreviations:
VAS: visual analog scale; QOL: quality of life.

Consensus Conference on Acupuncture 1998 (24), it was concluded that many studies show equivocal results, but that promising results have been shown for, for example, postoperative and chemotherapy nausea and postoperative dental pain. Moreover, it was deemed very likely that further research would uncover other areas where acupuncture interventions could be useful, such as headache, dysmenorrhea, and myofascial pain. The report also pointed out that the data for acupuncture are as strong as many accepted Western therapies, but that the incidence of adverse effects is substantially lower. However, in a recently published review article by Ezzo et al., the effectiveness of acupuncture treatment was assessed using a methodological quality assessment of acupuncture studies (25). Their conclusion was that there is only limited evidence that acupuncture is more effective than no treatment at all for chronic pain, but that the effectiveness of acupuncture for musculoskeletal pain is likely to be a promising area of future research.

The biological effects of acupuncture have not been fully elucidated, but considerable evidence supports the claim that opioid peptides are released during acupuncture and that the analgesic effects of acupuncture are at least partially explained by their actions (24). These peptides are activated by stimulating 'de chi,' i.e., a sensation of numbness and fullness in specific acupoints (26).

The aim of this pilot study was to obtain a preliminary indication of the effectiveness of acupuncture as a treatment for vulvar vestibulitis using a quality-of-life (QOL) measurement for evaluation, and to find out how well the treatment was tolerated.

Material and methods

Fourteen women, aged 19–26, all diagnosed as suffering from vulvar vestibulitis according to Friedrich's criteria (1), were consecutively enrolled in the study. All women were otherwise healthy, with no other concomitant gynecological disturbances. They used no medication and had had their symptoms for 8 months to 7 years, and were all patients at the Adolescent Health Center in Sundsvall, a community of 90,000 inhabitants. In Sweden, adolescent health centers are to be found in most cities and are available to young people from 13 to 25 years of age, mainly for consultation on reproductive health issues and medical and mental health services. All of the women had been diagnosed and treated by one of the authors of this article (ID) before they were recruited for the study and this same author was also the one who gave the women information about the study. They had not received any specific treatment other than locally applied ointments, and had not been treated by any other physician for their vulvar pain. The Ethics Committee at the University of Umeå gave its approval to the study, and all of the women submitted their informed consent.

Acupuncture was given 10 times by a physiotherapist (CÖ), who had good knowledge of and long experience (>10 years) practising the method, at an interval of 1 to 2 treatments a week. Four local and two distal acupoints were used each time, and when deemed possible or necessary by the physiotherapist, another 1–3 local acupoints and 1–2 two distal acupoints were also applied (Fig. 1). The needles were inserted into the acupoints in the muscles until de chi – the feeling of numbness, tingling, and warmth – was achieved. The depth of the needles depended on the place for the acupoint and the thickness of the subcutaneous fat. No periostal acupoints were used. The needles were left in place for 30–45 minutes and were stimulated mechanically, by rotating the needles, from 1 to 3 times, depending on the reactions of the patient.

The impact of vulvar pain in daily life is much more than just the pain and the difficulty of having sexual intercourse (8, 27, 28). It has been suggested that quality-of-life (QOL) assessments be used as result measurements in clinical trials of sexual dysfunction, but their uses have been limited to trials in men (29). In consideration of the many different effects of the vulvar pain on a woman's life, the women were asked just before the treatment began to define three major factors in their lives where the suffering caused by vulvar vestibulitis was most evident (negative QOL factors). A Visual Analog Scale (VAS) of 0–10 was used, with 0 corresponding to no suffering at all and 10 indicating unbearable pain or suffering. The women were also asked

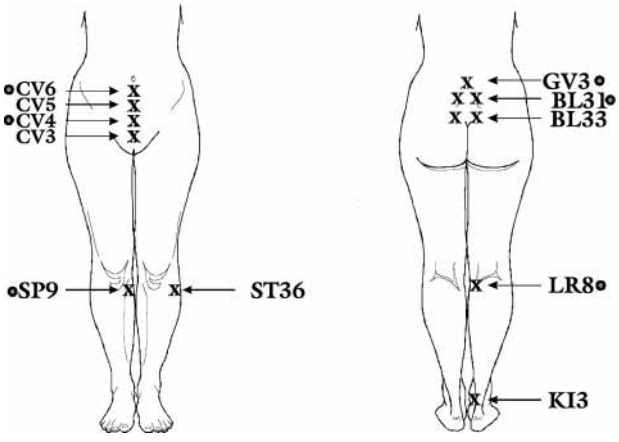

Fig. 1. Acupoints used in the study. Those marked with dots were always used, others when deemed possible or necessary. The acupoints are numbered according to The Acupuncture Atlas and Reference Book by Low (35).

to estimate two positive QOL factors in the same fashion, with 10 as the highest quality of life. The investigators expected it to be fairly easy for the women to define various negative QOL factors, since these would be, in one way or another, the reason behind their consultation with a physician, but that defining positive QOL factors would be much more difficult. From the clinical experience of the investigators, the positive QOL factors were set as 'desire', since this is often introduced and discussed by the patients, and 'joy of living', which is often used in different QOL assessments. The therapist clarified this last expression as 'the subjective sense of well-being derived from current experience of life as a whole'. This method of evaluation has been used previously with chronic disabling conditions (30, 31). The mean values from the VAS derived from the three negative QOL factors and the two positive QOL factors were used as two different measurements, which were compared on three different occasions: just before starting the treatment, one week after the last treatment, and three months after treatment. The women were asked by the physiotherapist, at the specific times, to fill in the VAS forms at home and then send them back.

In an attempt to assess the pain in an objective way, each woman was instructed to provoke the pain by pressing a probe to her vulvar vestibule once a week in the same way and at a certain time, and to use a VAS to estimate the degree of the pain. At the time of the study, the work by Eva et al. (32), evaluating the use of a vulvar algesiometer, had not yet been published, so an algesiometer was never used.

To assess how well the treatment was tolerated, the women were asked, at their last visit three months after the treatment, whether they found the treatment 'positive,' 'negative,' or 'neither positive nor negative.' Furthermore, notes of all side effects were made during and after the treatment.

For statistical analysis, the Wilcoxon Signed Ranks test was used. The significance level used was <0.05.

Results

Thirteen women received full treatment. One woman discontinued treatment for social reasons (a sudden death in the family). The treatment was well tolerated; no side effects were observed, and two women who had a fear of hypodermic needles managed very well to get through the whole treatment. Three months after the last acupuncture, 11 women expressed that they experienced the treatment as 'positive,' while two women felt the treatment was 'neither positive nor negative.'

The three negative QOL factors defined by each woman before starting the study proved to be very much alike. All of the women mentioned pain when having coitus as a major factor and most of the women chose 'relationship to their partner' as another. Other factors included feeling insufficient, a fear of not being able to get pregnant, and low self-esteem.

In Table I, the median VAS and interquartile (25%–75%) range, as well as the *p*-values, are presented for the negative and positive QOL factors before treatment, just after, and three months after the treatment was completed. It is noteworthy that there are significant differences between the VAS values for both the negative and the positive QOL factors not only immediately but also three months after the last acupuncture treatment.

The individual VAS values are presented in scatter diagrams, where the values for the negative factors are seen in Fig. 2. At the end of the treatment, 12 women rated their problems as less pronounced than before the treatment, i.e., their scores were lower, while one woman assessed her problems as worse. Three months after the last acupuncture, ten women still evaluated their negative life factors as less pronounced, and for five or six of these women, the improvement continued after the last treatment. Three women had unchanged or higher values.

As for the positive QOL factors (Fig. 3), nine women scored higher levels, i.e., better quality of life, while three had unchanged scores and one wo-

Table I. Median VAS and the interquartile range (iq range) for quality-of-life (QOL) factors before and after treatment with acupuncture

	Before treatment Median VAS (iq range)	After treatment Median VAS (iq range)	*p*-value	Three months after treatment Median VAS (iq range)	*p*-value†
Negative QOL factors*	7.2 (5.5–8.0)	4.0 (2.8–6.5)	=0.004	3.2 (1.2–7.4)	=0.01
Positive QOL factors**	4.7 (4.5–6.8)	6.8 (5.1–8.3)	=0.04	7.9 (5.5–9.0)	=0.001

* Lower VAS=less pronounced negative QOL.** higher VAS=more positive QOL.

† Difference between before treatment and three months after.

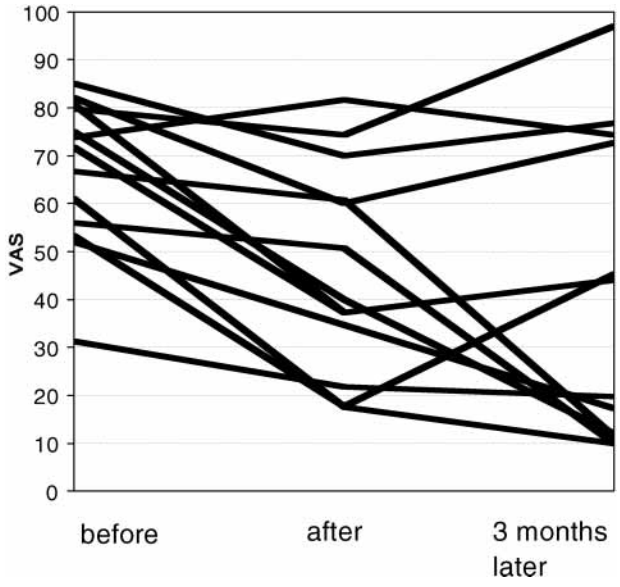

Fig. 2. The individual mean VAS values for negative QOL factors before treatment, just after and 3 months later.

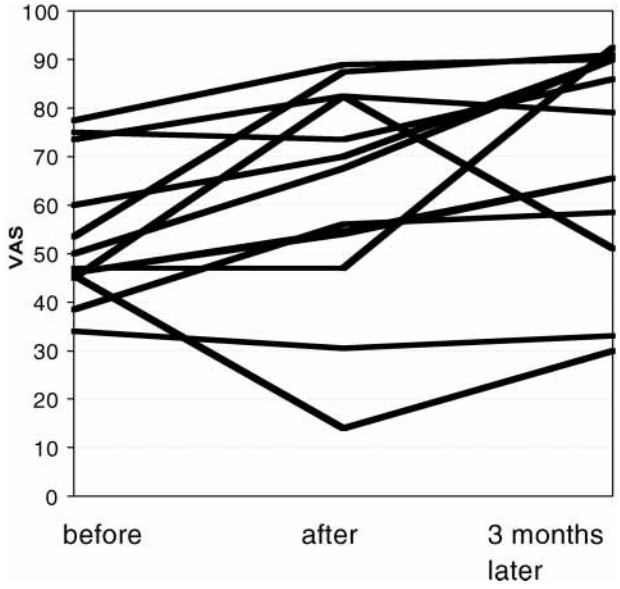

Fig. 3. The individual mean VAS values for positive QOL factors before treatment, just after and 3 months later.

man had lower scores, directly after the last treatment. Three months later nine women still assessed their positive life factors as better than before treatment.

One difficulty of the study was that the method of assessing pain proved to be unreliable. On practicing the instructions of how to use the probe, many women said it was difficult to carry out and also very painful. On this first instruction occasion, most of the women scored their provoked vulvar pain as 7–8 on the VAS. Since less than half of the women submitted their VAS records for pain, no analysis of this part of the study was made.

Discussion

Several authors have suggested regarding vulvar vestibulitis as a chronic pain syndrome and, as such, have proposed treatment using acupuncture (17, 23). Even if acupuncture is widely used for a number of pain conditions, the evidence of the effectiveness of acupuncture is still inadequate and partly controversial (24, 25). In a recently published metanalysis of acupuncture in chronic back pain, it was concluded that the effectiveness of acupuncture for low back pain remains unclear, while in a metanalysis of dental pain, significant analgesic effects were shown (25, 33). However, it is generally agreed that the incidence of adverse effects is low (24).

We believe that most gynecologists would agree that it is of utmost importance to find a simple and safe method of treating vulvar vestibulitis, and decided to test acupuncture treatment. Since vulvar vestibulitis is a new indication for acupuncture and since controlled studies of acupuncture are not easy to conduct, we decided to start with a pilot study, investigating young women's tolerance to the treatment and trying to get an idea of its effectiveness. If the results were convincing, a randomized controlled study would be the obvious next step.

The most frequently used instrument in evaluating vulvar vestibulitis treatment is the ability to have sexual intercourse. But the problem's influence on women's lives is often much greater, even if the actual pain is normally restricted to sexual intercourse. For this reason, we chose to use a different evaluation technique, namely, quality-of-life measurements, which we hoped would more fully describe the treatment's effect on the women's entire life situation. This has also been proposed by others (29). We found that our method was easy for the women to understand and use, and our first impression is that it is a promising way of evaluating various treatments of vulvar vestibulitis.

The acupuncture was well tolerated and significant differences were seen in the QOL measurements from before and directly after the last treatment and also three months later. Whether this is a physiological effect of the acupuncture, a placebo effect of the acupuncture, a beneficial effect of good care during the treatment or all of these could not be determined from this study. Another reason for the seemingly good effect of the treatment could be spontaneous recovery from the illness. While the natural course of the illness is not known, spontaneous recovery is seldom reported

(1), and the length of complaints is often very long (34), so spontaneous recovery would hardly be a considerable source of bias.

The study gives an indication that acupuncture may be added to our arsenal of treatment methods for vulvar vestibulitis. We hope that it will be a stimulus to further research in the field, using a larger randomized controlled study.

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