

ORIGINAL ARTICLE

Applied kinesiology for treatment of women with mastalgia

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SUMMARY. To determine whether an applied kinesiology technique was of benefit to women with breast pain, an open pilot study was conducted in which 88 newly presenting women with self-rated moderate or severe mastalgia were treated by applied kinesiology. This involved a hands-on technique consisting of rubbing a series of 'lymphatic reflex points' while touching painful areas of the breasts. The women were predominantly pre-menopausal, and patients with both cyclical and non-cyclical pain were included in the study. Patients' self-rated pain scores, both before and immediately after applied kinesiology were compared, together with a further score 2 months later. Immediately after treatment there was considerable reduction in breast pain in 60% of patients with complete resolution in 18%. At the visit after 2 months, there was a reduction in severity, duration and frequency of pain of 50% or more in about 60% of cases ($P < 0.0001$). This preliminary study suggests that applied kinesiology may be an effective treatment for mastalgia, without side-effects and merits testing against standard drug therapies. © 2001 Harcourt Publishers Ltd

INTRODUCTION

Mastalgia, either cyclical or non-cyclical is a common problem, which is usually-limiting and often responds to reassurance that there is no underlying serious pathology. Nevertheless there is a small proportion of women who have pain of such severity that it interferes with their personal, sexual and worklife. For this reason some are given endocrine treatments such as bromocriptine, danazol and tamoxifen, all of which have been shown in double-blind placebo-controlled studies to be effective.^{1–3} A wide variety of side-effects has been reported and sometimes these can be of such severity that treatment has to be stopped. After cessation of treatment there is usually relapse of pain, often within 3 months.⁴ Dietary factors may also contribute to breast pain and reduction of fat intake has been shown to reduce mastalgia,⁵ as has the use of evening primrose oil (gamma linolenic acid).⁶ This latter treatment appears to be effective mostly in women with mild or moderate pain.

Applied kinesiology is a multifaceted complimentary medical approach, which has developed recently and has

similarities with both chiropractic and acupuncture. A simple physical technique has been developed, which is suitable for application to women with breast pain.⁷ This involves the kinesiologist touching the painful area of the breast with one hand while massaging a series of points on the outside of the upper leg (from the knee to the hip) with the other hand.⁸ These points were first described by Chapman in the 1930s, and he claimed to have correlated these reflex points with specific organs. Chapman's reflex points are found mostly on the torso and legs. Those used to relieve breast pain run along a line in the centre of the outside of the thigh, approximately where the seam would lie on pair of trousers. These points may be very tender and the kinesiologist usually massages them only briefly at first, returning to rub more firmly until the tenderness diminishes. The massaging is done with a rotary-type action of the fingertips, beginning at the knee and working up the leg to the hip. Once pain in this area of the breast has reduced the kinesiologist moves on to touch any other painful areas of the breast. This process usually takes 20–30 min to complete. Subsequently the patient can use this technique herself. To test this kinesiological approach in women with mastalgia, a trial was initiated at Guy's Hospital Breast unit.

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Surname _____ Date / / Breast unit number _____

1. On a scale of 0–10, what level of breast discomfort are you experiencing **today**? (0 is no pain, 10 is worst pain)

0 1 2 3 4 5 6 7 8 9 10

2. On a scale of 0–10, what level of breast discomfort are you experiencing **following** your treatment today?

0 1 2 3 4 5 6 7 8 9 10

Fig. 1 Questionnaire at first visit.

STUDY DESIGN

All cases had self-rated moderate or severe mastalgia with no discrete masses on clinical examination. They were aged 20–70 years with either cyclical or non-cyclical breast pain, and with no evidence of malignancy on mammograms for those aged over 40 years. None were receiving any other treatment for mastalgia apart from mild analgesics, nor had any been treated with endocrine therapy in the previous 3 months. Three applied kinesiology treatments were given at 1 monthly intervals and after 2 months a self-assessment form was completed.

Two assessment forms were used in the study, and these are shown in Figures 1 and 2. The first was completed by women at their initial visit and compared pain before and after the first treatment, rated on a 0–10 scale. The second form, completed 2 months later, asked patients to rate their pain over this period and considered four aspects: severity, frequency, duration and area of extent.

PATIENTS AND METHODS

Between May 1995 and March 1997, 88 sequential patients were entered into the study. All were seen in a dedicated Mastalgia Clinic and had self-rated moderate or severe breast pain. After the initial consultation and examination/tests with the doctor, those women who were reassured and no longer appeared worried by their pain, were not randomized. The study was explained by the surgeon conducting the clinic and if the patient agreed to participate, she was treated immediately by the kinesiologist. The mean age of the patients

participating was 37 years (range 17–64). Of the patients, 68 were pre-menopausal, two were perimenopausal, six had undergone hysterectomies, and 10 were postmenopausal.

The patients were seen by just two kinesiologists (SPM or WMG). The pain evaluation forms were handed out by the kinesiologist and the women evaluated their pain before and after the treatment. Ideally, to avoid bias, it would have been better to have the patients fill out the questionnaires at their leisure, and post the completed forms directly to the statistician. However, with the before and after evaluations being so close together, this would have been inadvisable. It is a difficult task, and prone to error, to evaluate a prior pain that has since changed some time after this change has taken place.

STATISTICAL METHODS

The *t*-test was used to test the significance of the difference between the before and after pain scores on the first questionnaire, and to test for whether changes in pain score for the four different attributes listed in the second questionnaire were significant. As a second and more conservative check on these results, a non-parametric test was also used. For this test, observed changes in scores were coded as 0 (no change), 1 (improvement) or –1 (deterioration). The Wilcoxon signed rank test was then used to evaluate the probability that there was no overall change (median score = 0). Correlations were quantified using Spearman's correlation coefficient. *P* values < 0.05 were taken as significant.

were available for 48 out of 88 women (55%). The results are shown in Table 2. No cases reported a worsening of symptoms. There were highly significant reductions in all aspects of breast pain ($P < 0.0001$). Of those completing the second questionnaire, 18 (37%) reported that they carried out the technique themselves on a regular basis, 27 (56%) occasionally, and 3 (6%) not at all.

The reasons for patients not returning for follow-up could not be determined. One woman cancelled because of complete eradication of pain but others either cancelled without giving a reason or simply did not turn up. Those who failed to return for the last two visits were less likely to have reported improvement after the first treatment. Of those who had complete resolution of pain at the first visit, 83% returned for the subsequent two treatments compared with 57% of those who had pain relief of between 50% and 99%, and 41% of those

showing <50% improvement (χ^2 [trend] = 6.0, $P = 0.01$). There was also some correlation with age – older women were more likely to return for the last two visits ($r = 0.26$, $P = 0.007$); 47% of women under 45 returned for the last two visits compared with 80% of women aged 45 and older.

As measured by the second questionnaire, improvements were still highly significant in all four categories describing degree of response to treatment at the initial visit (see Table 2). There was a correlation between the final pain scores on the second questionnaire and the initial % improvements on the first visit rank correlations for severity, duration, area of extent and frequency being respectively 0.42 ($P = 0.005$), 0.39 ($P = 0.009$), 0.25 ($P = 0.07$) and 0.31 ($P = 0.03$). None of the pain scores were correlated with age or menstrual status. Again, as with the first questionnaire the improvements were not of a minor degree. For the different categories, namely severity, duration, area, and frequency of pain 65%, 58%, 31%, and 69% respectively of women had improvements of 50% or more.

Table 1 Change in pain score after first treatment

Evaluable cases	<i>n</i> = 67
Mean initial pain score (range)	4.0 (0–10)
Mean improvement in pain score (\pm SE)	2.3 (\pm 0.23)
Mean % improvement in pain score	51%
Complete resolution of pain	12 (18%)
Improvement of \geq 50%	40 (60%)
No change in pain	8 (12%)
Worsening of pain score	0

DISCUSSION

This preliminary study has shown that women treated with an applied kinesiological technique report significant reduction in mastalgia. Immediately after treatment

Table 2 Changes in pain scores on questionnaire at 2 months after three applied kinesiology treatments

Aspect of pain	Mean % improvement	95% CI	% showing improvement	<i>P</i> -value
Severity	55	46–64	92	<0.0001
Duration	51	40–62	75	<0.0001
Area	27	16–37	40	<0.0001
Frequency	53	44–63	83	<0.0001
Cases with <50% improvement at first visit (<i>n</i> = 11)*				
Severity	40	23–58	91	<0.0004
Duration	36	13–59	64	<0.006
Area	13	0–30	27	<0.13
Frequency	49	26–72	82	0.0008
Cases with 50–99% improvement at first visit (<i>n</i> = 16)*				
Severity	46	30–62	88	<0.001
Duration	37	19–55	63	<0.0005
Area	23	5–40	38	<0.01
Frequency	38	20–55	63	0.0003
Cases with 100% improvement at first visit (<i>n</i> = 10)*				
Severity	72	47–97	90	<0.0001
Duration	69	41–97	80	<0.0004
Area	40	8–72	50	<0.02
Frequency	75	54–95	100	<0.0001
Cases with no pain at first visit (<i>n</i> = 10)*				
Severity	66	49–84	90	<0.0001
Duration	70	52–88	80	<0.0001
Area	35	6–63	50	0.02
Frequency	62	41–82	100	<0.0001

*One case had a pain score of 8 at their initial visit before kinesiology but no pain score following kinesiology at their first visit and so is not included in this breakdown.

about 90% had improvement in pain score, with an average reduction of approximately 50%. This pain relief persisted at 2 months. In comparison with other forms of treatment, such as danazol, bromocriptine and tamoxifen, this is achieved with no side-effects and it is possible that the benefit may be longer lasting. The technique appeared to be equally effective in women with both moderate and severe mastalgia and in no cases did the pain become worse.

Reassurance alone often improves the lot of women with breast pain, so it might be argued that the improvements seen were not a result of the kinesiology. Two factors suggest that this is not the case. Firstly, the women included in this study had relatively intractable moderate to severe pain. This group might be expected to have a limited response to reassurance alone. Secondly, in this study, the kinesiology treatment produced dramatic improvements in a few minutes at the first treatment. The women had already seen the doctor, and received whatever reassurance he or she had to offer. They then came to the kinesiologist and documented their pain. After the kinesiology treatment they documented their pain again, and in the vast majority there were large improvements, including complete eradication of pain. In addition there was a correlation between this initial improvement and the overall improvement documented at the second evaluation after three treatments. This suggests that the overall improvements were related to the initial treatment, namely the kinesiology. These big and immediate improvements were therefore not simply a result of reassurance.

The current authors are sure, although it is difficult to prove, that the dropouts are a result of many factors operating in these women. As mentioned in the text, one woman dropped out as a result of her pain having completely resolved, and others may well also have dropped out for this reason. It is also probable that some women didn't return because the improvements and/or reassurance that they experienced were sufficiently great that they no longer considered their pain an issue. Elderly women were more likely to return for subsequent visits, although the reason for this is unclear. They may perhaps be more motivated as they get older. The negative correlation between returning for their final visit and improvement an initial visit suggests that some may have failed to return because they didn't experience a sufficiently large improvement.

Applied kinesiology is a relatively new development used by chiropractors, which dates back to 1964. Holistic and eclectic in approach, it embraces concepts from other disciplines like nutrition, osteopathy and acupuncture. Applied kinesiologists have also used a whole range of specialized techniques to deal with such common conditions as physical injuries, backache and neck pain, learning difficulties, constipation, mental stress and emotional problems. This study may pave the way for future trials of applied kinesiology for a variety of conditions.

The long-term effects of applied kinesiology were not addressed in this study but those cases seen after a longer time of follow-up reported continued benefit. This study did not compare standard drug treatments for mastalgia with applied kinesiology. The clear and immediate effects of the intervention, together with evidence of continued relief after 2 months suggests that this is a contender for a place in the management of breast pain. Of course, it is possible that the intervention may work through a complex placebo mechanism. This study did not have a control group, and so this cannot be ruled out, although the rapid improvements in pain score following treatment suggests that this is not the case. There is a pressing need to carry out a prospective randomized trial, albeit with the proviso that this could not be a double-blind study. It may however be possible to have one control group where a different area of the body is rubbed, making the treatment effectively blind to the patient.

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