THE JOURNAL OF ALTERNATIVE AND COMPLEMENTARY MEDICINE
Volume 12, Number 3, 2006, pp. 317–322

Adolescent Endometriosis-Related Pelvic Pain Treated with Acupuncture: Two Case Reports

ELLEN SILVER HIGHFIELD, Lic.Ac.,[1,2] MARC R. LAUFER, M.D.,[3,4] ROSA N. SCHNYER, L.Ac.,[2,5] CATHERINE E. KERR, Ph.D.,[2,5] PHAEDRA THOMAS, R.N., B.S.N.,[4] and PETER M. WAYNE, Ph.D.[2]

ABSTRACT

Background: Chronic pelvic pain in adolescents accounts for 10% of outpatient gynecology visits, and 70% of adolescent patients whose pelvic pain is unresponsive to initial therapy have endometriosis. To date, there has been no published research investigating the use of acupuncture for adolescents with chronic pelvic pain and/or endometriosis.

Methods: This paper presents two case reports describing the impact of a course of acupuncture on adolescent girls with endometriosis-related chronic pelvic pain of more than 1 year.

Results: Both patients, undergoing between 9 and 15 treatments over a 7- to 12-week period, experienced modest improvement in pain as measured by oral self-reports of pain on a scale from 1 to 10, as well as self- or family-reported improvement in headaches, nausea and fatigue. No adverse effects were reported.

Conclusions: These case reports provide preliminary evidence that acupuncture may be an acceptable and safe adjunct treatment therapy for some adolescents with endometriosis-related pelvic pain refractory to standard antiendometriosis therapies. These observations suggest that a prospective, randomized controlled trial of the safety and efficacy of acupuncture for this population may be warranted.

INTRODUCTION

Endometriosis is a progressive gynecological disorder that is a significant cause of infertility.[1,2] Chronic pelvic pain frequently accompanies endometriosis and has particularly important psychosocial and functional consequences in adolescents.[3] Overall, chronic pelvic pain in adolescent girls accounts for approximately 10% of outpatient gynecology visits[4] and 70% of adolescent patients whose pelvic pain is unresponsive to initial therapy (e.g., birth control pills, pain medications, and laparoscopic surgery) have endometriosis.[5]

Although much research has focused on treatments for women with pelvic pain between the reproductive ages of 25 to 40[6] far less attention has been paid to adolescents with this disease. Consequently, treatment options and recommendations for adolescents are more limited than that for adults. For instance, Lupron-Depot is a medication commonly used for treatment of endometriosis in adults. The desired effect is to lessen any pelvic pain or discomfort by stopping the menstrual cycle. This particular type of hormonal medication does this by lowering estrogen and creating a psuedomenopause. It is not usually offered to adolescents younger than age 16 because of concerns of a potential adverse impact on bone density and development.[7,8] In addition, use of this drug is limited by side-effects, including long-term bone loss and short-term hot flashes.[9] Therefore, there is a pressing need for new therapies for adolescents with endometriosis-related chronic pelvic pain.

Recent studies indicate that complementary and alternative medicine (CAM) therapies, including acupuncture, are

[1]Integrative Therapies Team, Center for Families, Children's Hospital, Boston, MA.
[2]New England School of Acupuncture, Watertown, MA.
[3]Department of Obstetrics, Gynecology and Reproductive Biology, Harvard Medical School, Boston, MA.
[4]Division of Gynecology, Children's Hospital, Boston, MA.
[5]Division for Research and Education in Complementary and Integrative Medical Therapies, Harvard Medical School, Boston, MA.

being used and well received by adolescent patients.[10–13] A recent survey of 47 families of pediatric chronic pain patients who used acupuncture found that most patients and parents rated the therapy as pleasant (67% children/60% parents), and most (70% children/59% parents) felt the treatment had helped their symptoms.[14] Pediatricians have been shown to endorse acupuncture as an adjunctive therapy for pediatric patients with chronic pain[15] and nearly one third of the 43 pediatric pain treatment services in North America children's hospitals offer acupuncture services.[16] However, to the authors' knowledge, there are no published studies to date that have assessed the efficacy, tolerability or safety of acupuncture as a treatment for adolescent and young adult endometriosis-associated chronic pelvic pain.

Over the past several years, patients with challenging gynecologic pain conditions resistant to conventional treatment are increasingly being referred by physicians within the Division of Gynecology at Children's Hospital Boston for treatment to acupuncturists in the community. Approximately 3-4 patients per year have been referred over the past 6 years. Below are presented case summaries for two such adolescent patients who presented with refractory pelvic pain with endometriosis and were referred for evaluation. Each of these young women had been treated with the standard accepted treatment of surgical diagnosis and destruction of lesions followed by menstrual suppression with combination estrogen/progestin therapy or Lupron-Depot. For each case, a summary of the patient's medical history is presented, followed by a description of the patient's Traditional Chinese Medicine (TCM) signs and symptoms, diagnosis, treatment strategy, as well as patients' self-report of their pain status following a course of treatment with acupuncture. Table 1 summarizes the key features of each case. The authors use these cases to illustrate similarities and differences in the diagnosis and treatment of chronic pelvic pain within biomedical and TCM frameworks, and to suggest that future prospective controlled trials evaluating the safety, tolerability, and efficacy of acupuncture for adolescent endometriosis-related pelvic pain may be warranted.

CASE 1

Medical history

BC initially presented for gynecologic care at Children's Hospital Boston (CHB) as a 17 year old, and previously had been followed by adolescent medicine (for primary care) and

Table 1. Summary of Conventional and Acupuncture Treatments for Two Cases of Adolescent Endometriosis-related Pelvic Pain

	Duration of pelvic pain	*Previous treatments*	*TCM diagnosis*	*Points used*	*Number of acupuncture treatments*	*Treatment specifications (according to STRICTA[22])*
Case 1	1.5 years	Two laparoscopies surgical ablation of endometriosis, continuous oral contraceptives, Danocrine Depoleuprolide acetate, non-steroidal anti-inflammatory medication	*Yang ming/shao yang* pattern, *qi* and blood stagnation with blood stasis, spleen and kidney deficiency, and *qi* stagnation turning to heat	Conception vessel (CV) 4, CV 6, stomach (ST) 28, ST 36, spleen (SP) 6 SP10, kidney (KI) 3, gall bladder (GB) 43, pericardium (PC) 6, *tai yang* and bladder (BL) 23. Moxa was used on CV points, ST 36, SP 6, and BL 23	Nine treatments over 7 weeks focused on pelvic pain. Continued treatments after 2-month hiatus for headache fatigue, and pain	Needle size: 0.20 × 30 Needle gauge: 3 (×1.2″). Stimulation: insert needles until *de qi* obtained with neutral to moderate stimulation. Length of time: 20 to 25 minutes
Case 2	1 year	Continuous oral contraceptives, naprosin, laparoscopy, voltarin, ortho-novum	*Qi* and *yang* deficiency	SP 10, SP6, CV 4, CV 6, lung (LU 7), K13, PC 6, *chong, mai* and *ren mai.* Moxa was also used on SP 6, and abdominal points	15 treatments over a period of 12 weeks	Needle size: 0.20 × 30 mm Needle guage: 3 (×1.2″). Stimulation: Insert needles until *de qi* obtained with neutral to moderate stimulation. Length of time: 20 to 25 minutes

gastroenterology for 6 years. Concurrently with gynecology, she also was seen in the pain treatment service and cardiology. BC had two laparoscopic procedures 6 months apart (MRL), both revealing endometriosis. In addition to surgical ablation of the endometriosis, BC was treated with oral contraceptive pills, danocrine, and finally depoleuprolide acetate that required higher dosing to achieve pain control. At her initial assessment visit at CHB, BC described her intermittent pelvic pain over her right lower quadrant as having a "sharp, stabbing quality" with pain ranging from 5 to 8/10, in which 10/10 is the worst possible pain. This numerical analog scale[17] is frequently used in both clinical and research settings as a rapid and reliable assessment of pain severity.[18,19] Blood work, Pap test, vaginal cultures, and diagnostic tests were negative. Her mother had a positive history for endometriosis, lupus, and Sjögren's disease. During the time BC received medical services at CHB, she struggled with complaints of pelvic pain, chronic fatigue, nausea, breakthrough bleeding, joint pain, and multiple somatic complaints including musculoskeletal pain. Her ongoing endometriosis treatment included the use of continuous hormone pills to stop menses, nonsteroidal anti-inflammatory drugs (NSAIDs) for pain control, and midodrine hydrochloride for chronic fatigue. BC's report of the intensity of her pelvic pain varied on the pain scale but was compounded with the many other somatic complaints.

Traditional Chinese medicine assessment

BC was referred to acupuncture (ESH) by CHB for her pelvic pain, nausea, headaches, lower back pain, and fatigue. She reported that her periods started at age 11 with very heavy flow, "awful" cramps, clots, and fatigue. Her worst times were mornings and evenings. According to her mother's report, BC originally had symptoms of abdominal pain, backache, and headache starting at age 2. BC said she had fatigue all the time, describing it as " paralyzing." She was only able to attend school part time. She said she felt sleepy even with 12 hours of sleep per night. BC's abdominal pain was "sharp," often causing vomiting, and she had nausea every day. Abdominal pain was described as over her ovaries, under her right ribs, and along regions on the midline below the umbilicus. She described the pain to be like a "knife stabbing." BC said the pain felt different from menstrual cramps, and that the stabbing pain could last "1 second to 15 minutes." She reported feeling the stabbing pains every day. On the pain scale she reported pain levels of 5 to 6/10 normally, up to 8 to 9/10 when severe. She felt better in warm weather. Headaches were daily occurrences until recently (no reason stated for change). She takes Motrin, which only helps for a few hours, and then the headache returns. BC's headaches were in the forehead and side of head. Pain also was affected by light and sounds. She also described back pain that occurred daily, was dull and throbbing, and hurt on either side of her spine. The back pain was not relieved by medications including Motrin, but using heat was comforting. BC was tall and slender, with a grayish cast to her face, and a shy affect. She had a long history of illnesses and a long list of medications provided at the first visit (two pages). Of note was her inability to attend school regularly, and her continuing fatigue despite many medications and many kinds of treatment. BC's life seemed to be one in which she and her parents concentrated on her illnesses and doctor's visits, and very little on normal socializing with friends.

Within the framework of a TCM diagnosis, BC's tongue was thin and showed evident heat, with red dots all over the tongue body. Her pulse was wiry, thin, and weak. Pain below the umbilicus occurred along the Ren Mai acupuncture meridian. The location of her headaches indicated a combined *yang ming/shao yang* pattern. Her severe pain, and menstrual clots indicated *qi* and blood stagnation, with blood stasis predominant. Her extreme fatigue, chronicity of illness, and back pain indicated an underlying spleen and kidney deficiency. The red dots all over her tongue indicated that the *qi* stagnation was transforming into heat. Her treatment was focused on promoting the circulation of *qi* transforming blood stasis, clearing heat and supporting the spleen and kidney. Acupuncture points used were: conception vessel (CV) 4, CV 6, stomach (ST) 28, ST 36, spleen (SP) 6, SP10, kidney (KI) 3, gallbladder (GB) 43, pericardium (PC) 6, and *tai yang* and bladder (BL) 23. Moxabustion was used on CV points, ST 36, SP 6, and BL 23.

Treatment and outcomes

BC was originally seen twice a week for 7 weeks, during which time her pelvic pain levels reduced to a 3/10. Headaches, nausea, and abdominal pain all were reduced, indicating that her imbalance between *yang ming* and *shao yang* had been improved. She reported fatigue as her symptom of greatest continuing concern, indicating that the spleen and kidney needed further support. Her symptoms improved enough for her to attend sleepaway camp for 2 months, and for her over-the-counter medication usage to decrease. She returned for acupuncture after the 2 months at camp, at which time she reported that her medications were changed from Lupron back to birth control pills, because of negative side-effects. Although none of her symptoms totally resolved, over just about a year of bimonthly treatments, her attendance at school did improve. She was able to join school groups, and even participate in weekend field trips. Pain scores for her pelvic pain were not taken at this time because her other symptoms of fatigue and back pain were the symptoms most frequently reported. Although medical notes on BC reveal that she did not have further surgeries for her endometriosis, she did continue to have a variety of complex medical issues.

CASE 2

Medical history

FT was initially evaluated by a gynecologist at CHB for management of pelvic pain of over 1 year. Her chief com-

plaints included severe dysmenorrhea and mood swings 1 week prior to her menses with intermittent pelvic pain. She was started on continuous oral contraceptive pills to stop menses and naprosyn for pain. However, the pain continued and became debilitating, interfering with activities of daily living and school attendance. A laparoscopy done 4 months after the initial evaluation revealed stage I endometriosis (MRL). Visible lesions in the posterior cul-de-sac and uterosacral ligaments were cauterized. Postsurgically, FT continued to have pelvic pain. She obtained only mild relief from Voltaren-pain medication, which prompted a referral to the pain treatment service and subsequently for acupuncture. FT remained on continuous estrogen/progestin hormone pills and tolerated the side-effect of periodic breakthrough bleeding.

Traditional Chinese medical assessment

FT was referred for acupuncture (ESH) for help with menstrual pain and cramping. FT presented 1 month after the diagnosis of endometriosis. Her periods started at age 12, and she reported that she always had very bad cramps during her periods. This year she said she had pain every day at levels of 7 to 8/10 with some episodes of pain at levels 10/10. She reported that her periods made the pain worse, and that she had shooting pains down her thighs. She also reported being sick in the mornings with mood swings and headaches. Her periods were 3 to 5 days, regular, and she would also occasionally get headaches along with her menstrual cramps. Heat seemed to help her cramps. She had been put on oral contraceptives before surgery. She had difficulty attending school because of her high pain levels, had missed school for 2 weeks before surgery, and had missed 2 months of school the previous year. Sitting in school exacerbated her pain. The pain was helped by heat and lying down. The patient reported sweaty hands, especially when she became crampy in school. She has a past history of eczema and psoriasis. She also reported a problem with constipation.

FT was a slender and petite young woman who seemed edgy and slightly anxious. Her mother brought her to treatments, and the bulk of her history was given by her mother, who also explained that the family was in crisis because of the health and behavior of a sibling. FT's school attendance was an issue of note. She seemed quite happy to spend time at home with her mother, and not socializing.

Within the framework of a TCM diagnosis, FT's tongue was swollen and pale; her pulse was soggy and weak. Her reports of shooting pain down the legs and improvement of pain when resting or lying down indicated predominant *qi* and *yang* deficiency. The constipation, which could have resulted from several different mechanisms, severely aggravated stagnation in her pelvic region, and initially was caused by inadequate circulation of *qi* and blood from *qi* deficiency. The main strategy was to promote the circulation of *qi*, and transform blood stasis while warming kidney *yang* and nourishing *spleen qi*. Points used were: SP 10, SP6, CV 4, CV 6, lung (LU 7), KI3, PC 6, *chong mai,* and *ren mai.* Moxabustion also was used on SP 6 and abdominal points.

Treatment outcomes

FT received 15 treatments administered over 12 weeks. She reported that pain levels decreased to 7/10 after first two treatments. She then began her period 2 weeks into acupuncture and reported levels of 9 to 10/10 with its onset, and levels 7 to 8/10 after treatment. At the third week of treatment, her mother said that FT was "globally better." The patient reported a decrease in pain and had the realization that she was missing out on activities with friends. At her eighth treatment, FT reported that she was able to increase activities, and took part in a school play, but still found school attendance difficult. At this point, because of her inability to attend school regularly, she was referred to the psychotherapist at the pain service of CHB. An herbal tea also was recommended for help with her constipation. At her thirteenth treatment (week 8) she was able to attend school for three class periods. Her mother noted that FT's "attention span and ability to concentrate had increased dramatically," indicating an improvement in her spleen *qi*. FT suspended acupuncture treatments for 2 months (July and August). She was then seen for a final follow-up treatment in September, when she reported her constipation had been resolved, and pelvic pain was rare, with low pain levels (4/10 at the worst), indicating that the circulation of *qi* in the pelvic region had improved. She had changed schools, was enjoying her new school, and was well enough to attend regularly and join the field hockey team, indicating a healthy presence of kidney *yang*. Notes from her medical records state "improvement with acupuncture." She did not have further surgeries for her endometriosis, and over time "occasional mild pelvic pain" was all that was documented.

DISCUSSION

The two cases were taken from the files of an acupuncture clinician (ESH) familiar with treating adolescents with chronic pelvic pain associated with endometriosis. Although they indicate that acupuncture may have contributed to improvements in pelvic pain, overall physical and psychological well-being, and participation in school and other social activities, these preliminary data cannot be used to draw any firm conclusions regarding acupuncture safety, tolerability, and efficacy in this population. These cases describe the responses of self-selected motivated young women; active treatments were not compared to any controls, and the outcomes are largely descriptive, subjective, and self-reported, because this was a retrospective case series. Nevertheless, these reports suggest a few research questions that warrant further attention.

Table 2. Pelvic Pain According to Traditional Chinese Medicine

Where there is pain, there's no free flow; where there's free flow, there's no pain.
Traditional axiom

Normal physiology of menstruation	Blood must be abundant and move properly • Sufficient production depends on the functions of kidney, spleen, and heart. • Proper movement relies on the free flow of the *qi* of the liver and *chong mai*
Organs	• Kidney: Source of reproductive capacity • Heart: Governs the blood • Liver: Stores the blood • Spleen: Creates the blood • Uterus connected in function to each of these organs. It is nourished and dependent on them for continuous health.
Extraordinary vessels	• *Chong mai:* Influences supply and proper movement of blood in the uterus • *Ren mai:* Nourishes and tonifies entire female reproductive system • *Du mai:* Maintains the balance of *yin* and *yang* of the reproductive system
Etiology of pelvic pain	Emotional and psychosocial stress results in *qi* and blood stagination. Overexposure to cold or dampness (environmental or foods) obstructs free flow in the pelvic region. Overwork or chronic illness results in insufficiency of *qi* and blood. Improper diet leads to either insufficiency of *qi* and blood or accumulation of heat, dampness, or cold. Excessive or premature sexual activity or childbirth results in deficiency of the kidney. Combination of deficiency and excess, hot or cold
Chronic, insidious pelvic pain in adolescents	• Constitutional factors or to improper diet and lifestyle Spleen and kidney deficiency • Overexposure or diet Internal cold and dampness and blood deficiency • Emotional strain or psychosocial stress Stagnation of liver *qi*, heat, and blood

First, the willingness of these two adolescent patients to pursue acupuncture and adhere to a regular set of visits is in line with growing evidence that adolescents and their families are increasingly using acupuncture and other CAM therapies for the treatment of pain and other chronic conditions.[11–13] These observations suggest an interest in the use of acupuncture as an adjunct therapy among adolescent women with endometriosis-related pelvic pain. Therefore, a more formal evaluation of the feasibility of recruiting adolescents into a prospective controlled trial evaluating acupuncture for chronic pelvic pain is warranted. To that end, the authors are currently conducting a randomized placebo-controlled trial to evaluate one style of acupuncture in the treatment of endometriosis-related pelvic pain in adolescents. Second, a common feature in both cases is that patients presented with a complex landscape of symptoms not limited to pelvic pain. Clinically, note that these two adolescents, as well as others presenting with chronic pelvic pain, usually see several physicians, starting with their pediatricians, and work their way up to specialists in adolescent gynecology. By the time they are referred for acupuncture, they may have been diagnosed and treated by laparoscopy, and have been on several different kinds of birth control pills as well as pain medications. Within the framework of TCM, chronic pelvic pain has a complex underlying etiology, as these young women rarely present with a simple and discrete diagnostic pattern. Table 2 illustrates an overview of TCM theory about pelvic pain. In the authors' clinical experience, many adolescents who carry this biomedical diagnosis also complain of headaches, dizziness, fatigue, cold, and often have been diagnosed with other autoimmune illnesses such as chronic fatigue syndrome. Perhaps one of the reasons acupuncture shows promise in this population is because its diagnostic and treatment strategies are inherently holistic, characterizing and treating the complex relationships among physical, emotional, and psychosocial dysfunctions.[20] Indeed, there is a growing appreciation of the need for multidisciplinary approaches in the treatment of adolescent endometriosis.[21] Future prospective studies evaluating acupuncture for chronic pelvic pain could shed light on this complex condition, including outcomes related to both psychological well-being and psychosocial functioning.

CONCLUSIONS

The two cases summarized here provide preliminary data indicating that acupuncture may be acceptable, safe, and ef-

fective for managing chronic pelvic pain and associated symptoms related to endometriosis in adolescent girls. However, only prospective controlled trials will provide definitive conclusions about the safety and efficacy of acupuncture for this population.

ACKNOWLEDGMENTS

The authors thank Jacqueline Savetsky German for administrative assistance in soliciting IRB approval for record review; and Julie Buring, Roger Davis, Richard Hammerschlag, and Steven Schachter for critical review of the manuscript. This study was supported by grant #5 U19 AT002022-02 from the National Center for Complementary and Alternative Medicine (NCCAM). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the NCCAM or the National Institutes of Health.

REFERENCES

1. Minjarez DA, Schlaff WD. Update on the medical treatment of endometriosis. Obstet Gynecol Clin North Am 2000;27: 641–651.
2. Adamson GD. Treatment of endometriosis-associated infertility. Semin Reprod Endocrinol 1997;15:263–271.
3. Propst AM, Laufer MR. Endometriosis in adolescents. Incidence, diagnosis and treatment. J Reprod Med 1999;44: 751–758.
4. Duleba AJ, Keltz MD, Olive D. Evaluation and management of chronic pelvic pain. J Am Assoc Gynecol Laparosc 1996;3:205–227.
5. Laufer MR, Goitein L, Bush M, et al. Prevalence of endometriosis in adolescent girls with chronic pelvic pain not responding to conventional therapy. Pediatr Adolesc Gynecol 1997;10:199–202.
6. Olive DL, Pritts EA. The treatment of endometriosis: A review of the evidence. Ann NY Acad Sci 2002;955:360–372.
7. Laufer MR, Sanfilippo J, Rose G. Adolescent endometriosis: Diagnosis and treatment approaches. J Pediatr Adolesc Gynecol 2003;16:3–11.
8. American College of Obstetricians and Gynecologists. Endometriosis in adolescents. ACOG Committee Opinion No. 310. Obstet Gynecol 2005;105:921–927.
9. Orwoll ES, Yuzpe AA, Burry KA, et al. Nafarelin therapy in endometriosis: Long-term effects on bone mineral density. Am J Obstet Gynecol 1994;171:1221–1225.
10. Lee AC, Highfield ES, Berde CB, et al. Survey of acupuncturists: Practice characteristics and pediatric care. West J Med 1999;171:153–157.
11. Kemper KJ, Sarah R, Silver-Highfield E, et al. On pins and needles? Pediatric pain patients' experience with acupuncture. Pediatrics 2000;105:941–947.
12. Ottolini MC, Hamburger EK, Loprieato JO, et al. Complementary and alternative medicine use among children in the Washington, DC area. Amb Pediatr 2001;1:122–125.
13. Zeltzer LK, Tsao JC, Stelling C, et al. A phase I study on the feasibility and acceptability of an acupuncture/hypnosis intervention for chronic pediatric pain. J Pain Symptom Manage 2002;24:437–446.
14. Highfield ES, Kaptchuk TJ, Ott MJ, et al. Availability of acupuncture in the hospitals of a major academic medical center: A pilot study. Complement Ther Med 2003;11:177–183.
15. McLellan MC, Highfield ES, Woolf A. Pediatric healthcare providers attitudes and referral predictors for therapeutic massage and acupuncture. Complement Health Practice Rev 2005;10(2):119–131.
16. Lin Y, Lee AC, Kemper KJ. Acupuncture services provided by pediatric pain treatment services in North America. Pediatric Academic Society Meeting Abstract, May 1999, San Francisco, CA.
17. Price DD. Psychological Mechanisms of Pain and Analgesia. Progress in Pain Research and Management, vol. 15. Seattle, Washington: IAST Press, 1999.
18. Campbell C, Guy A, Banim M. Assessing surgical patients' expectations and subsequent perceptions of pain in the context of exploring the effects of preparatory information: Raising issues of gender and status. Eur J Pain 1999;3(3):211–219.
19. Pendeville PE, Von Montigny S, Dort JP, et al. Double-blind randomized study of tramadol vs. paracetamol in analgesia after day-case tonsillectomy in children. Eur J Anesthesiol 2000;17(9):576–582.
20. Paterson C, Britten N. Acupuncture as a complex intervention: A holistic model. J Altern Complement 10(5):791–801.
21. Greco CD. Management of adolescent chronic pelvic pain from endometriosis: A pain center perspective. J Pediatr Adolesc Gynecol 2003;16:S17–S19.
22. MacPherson H, White A, Cummings M. Standards for reporting interventions in controlled trials of acupuncture: The STRICTA recommendations. Acu Med 2002;20(1):22–25.

Address reprint requests to:
Ellen Silver Highfield, Lic.Ac.
Center for Families
Integrative Holistic Team
Children's Hospital
300 Longwood Ave.
Boston, MA 02215

E-mail: eshighfield@comcast.net