Clinical Digest

Complementary Medicine

Acupuncture for Pregnancy Pain

Based on results from their randomized, controlled trial, researchers from Yale-New Haven Hospital (YNHH), New Haven, CT and University of California School of Medicine, Irvine say that seven days of continuous auricular acupuncture can reduce the pain and disability associated with pregnancy-related low back and posterior pelvic pain (PRLP).

PRLP consists of generalized lower back pain and pains in the posterior pelvic area distal and lateral to the lumbar-sacral junction. Annually, more than two million pregnant women in the United States experience PRLP. Since the use of some drugs during pregnancy is contraindicated or not recommended, nonpharmacologic treatments—such as massage, yoga, and acupuncture—are attractive options. Yet few randomized, controlled trials have been conducted to test these treatments in women with PRLP.

The researchers chose to examine the effects of auricular acupuncture because it is easier to apply than body acupuncture, it employs small press needles that can remain in place while patients continue their daily activities, and it has been studied less than body acupuncture in PRLP. The trial was conducted at the Center for the Advancement of Perioperative Health at YNHH between February 1, 2005 and January 31, 2008. A total of 152 women (with a gestational age of 25 to 38 weeks) who had PRLP completed the two-week study.

The researchers assigned 58 participants to the acupuncture group, in which needles were placed at three points on one side of the ear, corresponding to kidney, analgesia, and shenmen. These points were chosen based on proximity to the auricular somatotopic map of the hip and lumbar spine and on results of pretesting during the preparation phase of the trial. Another 54 participants received "sham" acupuncture, in which needles were placed at three nonspecific points on the ear, corresponding to shoulder, wrist, and extra-auricular point. These points had demonstrated minimal effects in previous studies. In both groups, the needles were to be left in place for one week. A control group of 47 participants received no acupuncture treatment.

All participants were directed to rest as desired, apply compresses, or take acetaminophen 650 mg every six hours to relieve pain during the study period. They were instructed to avoid any other complementary or alternative treatments, such as massage and physical therapy. Pain was measured at baseline, day seven, and day 14 using the Visual Analog Scale for Pain, and functional status was measured at baseline and day seven using the Disability Rating Index.

At the day seven follow-up, 81% of participants in the acupuncture group had a clinically significant (30%) reduction in pain, compared with 59% of the sham acupuncture group and 47% of the control group. Moreover, 37% of the acupuncture group reported being free of pain, compared with 22% of the sham acupuncture group and 9% of the control group. For many of the participants, the reduction in pain continued through day 14, although the number of women who remained pain free was fewer at day 14 than at day seven.

All participants, regardless of group, reported improved functional status after the first week. The improvement was statistically significant, however, only for patients in the acupuncture group.

Based on the lack of any major local irritation, infection, or adverse outcomes observed among study participants receiving acupuncture, the researchers conclude that the one-week continuous auricular acupuncture technique is safe for pregnant women with PRLP. They call for a larger randomized, controlled trial to "explore the characteristics of acupuncture responders [versus] nonresponders, the optimal duration of treatment to achieve the sustained therapeutic effect, and the potential mechanisms of auricular acupuncture analgesia, as well as detailing the pregnancy outcomes."

Source: *Am J Obstet Gynecol.* 2009;201(3):271.e1–271.e9. doi:10.1016/j.ajog.2009.04.028.

Infectious Diseases

How Common is *Klebsiella pneumoniae* Bacteremia?

According to researchers from the University of Calgary and Calgary Laboratory Services, Calgary, Canada, the epidemiology of *Klebsiella pneumoniae*—the second most common cause of community- and hospital-acquired gram-negative bloodstream infections—has never been defined in a nonselected population. To address this knowledge gap, they conducted a study to determine the incidence of, risk factors for, and outcomes associated with *K. pneumoniae* bacteremia.

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The researchers selected an active, retrospective, population-based surveillance cohort design because such designs include all cases occurring within a defined population, thus minimizing selection bias. All persons who lived in the Calgary Health Region (a population of approximately 1.2 million, including the cities of Calgary and Airdrie and a large surrounding area in the Canadian province of Alberta) and developed *K. pneumoniae* infection between January 1, 2000 and December 31, 2007 were included in the study.

Researchers identified 640 cases of *K. pneumoniae* bacteremia in 633 residents; six patients had two incident episodes, and one patient had three incident episodes. Among the 640 infections, 174 (27%) were classified as nosocomial, 276 (43%) were classified as health care–associated, and 190 (30%) were classified as community-acquired. The overall annual incidence rate was 7.1 cases per 100,000 population. This rate is lower than that of infection with *Escherichia coli* (30 cases per 100,000 per year) or *Staphylococcus aureus* (28 cases per 100,000 per year)—but is comparable to that of infection with *Pseudomonas aeruginosa* (6.4 cases per 100,000 per year) or *Streptococcus milleri* group (8.65 cases per 100,000 per year).

Dialysis, solid organ transplantation, chronic liver disease, and cancer were found to be the most important risk factors for acquiring *K. pneumoniae* bacteremia. The risk of infection also was closely related to age and gender, with elderly men being at highest risk. The case fatality rate was 20%, or 1.3 cases per 100,000 population per year. Increasing age, nosocomial acquisition, and nonurinary and nonbiliary focus of infection were independently associated with a higher risk of death.

Highly invasive hypermucoid strains of *K. pneumoniae* have emerged as a leading cause of pyogenic liver abscesses in several Asian countries. In this study, the researchers found 14 cases of *K. pneumoniae* bacteremia associated with primary liver abscesses. They say their data, as well as demonstrating increasing rates of antimicrobial resistance, highlight the importance of ongoing surveillance of this invasive pathogen.

Source: *Am J Med.* 2009;122(9):866–873. doi:10.1016/j.amjmed.2009.03.034.

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