Correspondence and Brief Communications

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ARNICA MONTANA AND DOSING OF HOMEOPATHIC MEDICATION

Sir:

The Safety and Efficacy Report on arnica authored by W. Thomas Lawrence and the Plastic Surgery Educational Foundation DATA Committee mentions that “the dose of the active agents in homeopathic preparations is exceptionally small,” but it does not address specifics. I think it is essential that physicians prescribing drugs in homeopathic preparations have a clear understanding of how the drugs are formulated.

Dosing of homeopathic medication was briefly explained in this Journal by Dr. J. William Little. Dr. Stephen P. Daane similarly addressed the subject in a letter in which he concluded that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively).

Skepticism about the efficacy of these extremely dilute solutions is not new. The use of “infinitesimal” doses was defended by Samuel Hahnemann, who developed the fundamental principles of homeopathic medicine in the 1790s. The purpose of this letter is not to cast aspersions on the practice of homeopathy or the benefits of A. montana, but rather to assure that those prescribing it understand the difference between traditional allopathic medicine, one must keep in mind the seeming paradox of homeopathic medicine, which is that the less concentrated the drug the stronger, or more efficacious, it is considered to be. That is, each time the drug is diluted by a factor of 10 or 100 or more it becomes more potent. That is why the common potencies are available over the counter in the United States while the very highest potencies (most dilute formulations) are reserved for professionals.

This peculiarity of homeopathic dosing is exemplified in the package information for SinEcch, a popular brand of homeopathic arnica manufactured by Alpine Pharmaceuticals (San Rafael, Calif.). Treatment with SinEcch is initiated with the “more potent” 1M preparation, which comes from the thousandth dilution of arnica, and then tapered to the 12C preparation, or the twelfth dilution. Both the 1M and 12C doses carry the label “500-mg capsule,” but this refers to the weight of the sugar pellets, which are the carriers of the homeopathic medicine. The solution of the homeopathic medicine in a particular strength (e.g., 12C) is applied to the sugar pellets and allowed to soak into the pellets. The pellets are then superficially dried for packaging. As noted by Riley, arnica in these strengths is not an herb but a homeopathic medicine.

Dosing of homeopathic medication was briefly explained in this Journal by Dr. J. William Little. Dr. Stephen P. Daane similarly addressed the subject in a letter in which he concluded that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively). He cites references showing that arnica was either worthless or dangerous depending on which form of it was ingested (homeopathic or nonhomeopathic dosages, respectively).

Homeopathic medications in the United States are most commonly formulated according to a centesimal scale of dilution. A 1C preparation of arnica has one part arnica to 99 parts diluent, a concentration of 1:100. A 2C preparation is made by diluting the 1C preparation by another factor of 100, leaving a concentration of 1:10,000.

Among the most common potencies used are the third, sixth, and twelfth. Arnica with a potency of, say, 12C is formulated by diluting the original arnica 12 times to one part in 100; in other words, the concentration of Arnica is 1:1,000,000,000,000,000,000,000,000 (one followed by 24 zeroes). A 1M preparation has been diluted 1000 times by a factor of 100 (one followed by 2000 zeroes). According to Avogadro’s law, it is unlikely that dilutions of this magnitude would contain even one molecule of the original arnica.

A letter by Dr. David Riley also addresses homeopathic dosage regimens. He explains one of the principles of homeopathy, which is that efficacy increases as the strength utilized increases. While this would seem to be common sense to the physician practicing traditional allopathic medicine, one must keep in mind the seeming paradox of homeopathic medicine, which is that the less concentrated the drug the stronger, or more efficacious, it is considered to be. That is, each time the drug is diluted by a factor of 10 or 100 or more it becomes more potent. That is why the common potencies are available over the counter in the United States while the very highest potencies (most dilute formulations) are reserved for professionals.

REFERENCES


From December of 2000 to April of 2003, 42 patients with various complications after polyacrylamide hydrogel injection elsewhere were treated in our department. All the patients were female and ranged in age from 23 to 54 years. Polyacrylamide hydrogel was injected for breast augmentation in 31 patients, nose augmentation in one patient, temple augmentation in five patients, and local depressed facial filling in five patients. The complications included chronic pain (25 cases), infection (six cases), aseptic inflammation (10 cases), ulceration of the puncture point (nine cases), galactostasis (one case), skin necrosis of the nose (one case), induration (24 cases), displacement (seven cases), breast deformation (four cases), bilateral asymmetry (four cases), and skin acne-like changes (five cases).

B-type ultrasound and nuclear magnetic resonance imaging showed polyacrylamide hydrogel signals in abnormal areas, such as subcutaneous tissue, the musculus frontalis, the musculus temporalis, the mammary glands, the musculus pectoralis major, and above the fasciae of the musculus pectoralis major (Fig. 1). In the patients with galactostasis, B-type ultrasound examination of the affected side showed polyacrylamide hydrogel located inside the mammary glands and retromammary lacuna; the normal side showed polyacrylamide hydrogel located in the retromammary lacuna. Bacteriologic cultures of drainage from four of the six cases of obvious inflammatory reaction gave positive results, but drainage cultures for the seven cases of ulceration of the puncture point gave negative results. Treatment (such as local drainage and use of antibiotic drugs and anti-inflammatory drugs) was based on examination results. Most patients were relieved of their complications.

A 25-year-old woman presented with dull mammary pain 2 years after breast augmentation by polyacrylamide hydrogel injection. The pain was not related to her menstrual period. Large areas of induration could be felt in the medial areas of both breasts. A nuclear magnetic resonance imaging scan showed that the backsides of both mammary glands had a big slice of long T2 signal; its edge was out of order and was separated by low signals. There were some stripe-like long signals in the muscle fascicle and glands. There were a few knot-like signals in the subcutaneous tissue (Fig. 2). Centesis of the lateral inframammary fold was performed using an extradural puncture needle, with the patient under local anesthesia; normal saline solution was injected when the needle reached the polyacrylamide hydrogel capsule, and gel was drawn after tender massage. Gel was drawn repeatedly until the drainage contained almost none. The puncture point was then covered with a small stick, and a pressure bandage was applied to the chest for 3 days.

Complications following polyacrylamide hydrogel injection are mainly due to the quality of the hydrogel, complicated local reactions to the transplantation, the quality
out compromising access to volar digital structures. As such, it may prove a useful addition to the repertoire of access incisions in the hand.

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Shehan Hettiaratchy, F.R.C.S.
Division of Plastic Surgery
Massachusetts General Hospital
Harvard Medical School
Boston, Mass.

Peter E. M. Butler, M.D.
Department of Plastic Surgery
The Royal Free Hospital
London, United Kingdom

Correspondence to Dr. Hettiaratchy
Division of Plastic Surgery
Massachusetts General Hospital
Harvard Medical School
15 Parkman Street
Boston, Mass. 02114
shehan.hettiaratchy@brc.mgh.harvard.edu

REFERENCES


ARNICA MONTANA AND HOMEOPATHIC DOSING GUIDELINES

Sir:

I am aware that surgeons are utilizing homeopathic Arnica montana as a part of their perioperative regimen for patients. I am a medical doctor, board-certified in Internal Medicine, and a technical consultant to the U.S. Food and Drug Administration for regulatory issues related to homeopathy, and I have more than 15 years of experience with the use of homeopathic medications.

While I am interested to note that surgeons are utilizing this medication that appears to be effective for reducing posttraumatic ecchymosis and edema, I am concerned that conventionally trained physicians using homeopathic medications, because their colleagues recommend it or because their patients ask for it, may not understand the dosage regimens being used. Homeopathic dosage regimens are significantly different from the regimens of either conventional medications or herbs and dietary supplements. Homeopathic dosage regimens can be simply stated, even though they contradict conventional pharmacokinetic reasoning.

Many different postoperative homeopathic dosage regimens appear to be able to be used with safety. The most successful appear to utilize the homeopathic strength that seems to correlate with the degree of trauma experienced by the patient. Efficacy also appears to increase as the strength utilized increases from 6C to 7C to 9C to 12C to 15C to 30C to 200C to 1 M (1000C) to 10 M (10,000C). The 200C, 1 M, and 10 M range of strengths are less concentrated than the 6C to 30C range, and from a homeopathic prescribing point of view, they are more appropriate for major surgical procedures involving extensive bruising and swelling, a prolonged recovery, and the need for stronger analgescics. (Some homeopathic medicines are marketed with the letter R rather than the letter C after the number. These forms can be converted by dividing the R form’s number by the numeral 2 to determine the corresponding C strength. For example, a 30X strength is equal to a 15C strength.)

Preoperative dosage regimens with an excessive number of homeopathic doses (regardless of the strength) may cause, paradoxically, an increased tendency to bleed and bruise during subsequent trauma such as surgery. This is not a uniform response but is reported in the homeopathic case report literature in a small percentage of patients. To prevent this problem, it is probably wise to use no more than a few doses of homeopathic A. montana preoperatively.

These simple measures appear to optimize the use of homeopathic A. montana, and they reduce the rare reporting of intraoperative bleeding potentially related to the use of Arnica. Just as with conventional drugs, the dosage strength and regimen may determine whether the drug is beneficial, useless, or detrimental to the patient.

Homeopathic Arnica, in the strengths described above, is not an herb but a homeopathic medicine with apparent efficacy when appropriately prescribed in clinical practice and has extremely low toxicity. Physicians have safely and routinely used it for two centuries. Any information on the toxicity of Arnica is almost always describing herbal Arnica, not homeopathic Arnica.

The definition of what is and what is not a homeopathic remedy is clear from a regulatory point of view. Herbs and dietary supplements are regulated as foods by the Dietary Supplement Health and Education Act of 1994 regulations. They are not homeopathic products even though they may have the same botanical names. Homeopathy is regulated in the United States by the Food and Drug Administration for good manufacturing practice standards. Homeopathic medicines sold in the United States are almost always monographed in the Homeopathic Pharmacopoeia of the United States, prepared according to the official methods of the Homeopathic Pharmacopoeia, and legally marketed as over-the-counter drugs according to the Food and Drug Administration’s compliance policy guideline 7132.15 published in 1988 and as amended. I would remind the readers that topical Arnica should not be used on broken skin and therefore should be avoided postoperatively near incisions.

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David Riley, M.D.
Alternative Therapies in Health and Medicine
University of New Mexico School of Medicine
Integrative Medicine Institute
P.O. Box 4310
Santa Fe, N. M. 87502

THE USE OF EPINEPHRINE IN BREAST REDUCTION

Sir:

I believe I can answer directly the questions of Dr. Mottura and Dr. Brown in their exchange of letters on epinephrine in breast reduction in Plastic and Reconstructive Surgery.1,2 We...
We use the conformational technique to tackle this problem and to ensure that dressings contour to the body’s surface. In the case of nonadherent dressings such as Jelonet on skin grafts, we make radial slits throughout the dressing’s circumference. The length of these slits depends on the extent to which Jelonet has to conform to the underlying recipient bed. A second overlapping layer of similar dressing may be needed to cover gaps caused by the ends of the first dressing splaying open. This technique complements other dressing techniques such as the tie-over, foam, and glove dressings used to ensure graft take. The design of this dressing technique depends on the area on which the dressing is used. For an inframammary dressing (Fig. 1), slits are made along the lower border of the dressing to increase its length compared with the upper border, thereby allowing the dressing to follow the curve of the breast.

Extrapolating this principle, dressings can be made to conform to virtually any body surface, including the perineal, axillary, and cervical areas. For convex, concave, or uneven surfaces, radial slits are made circumferentially, allowing a two-dimensional dressing to conform to a three-dimensional surface.

We have found that because the tension of the dressing is spread more evenly, there is less of a chance that tension blisters might develop. Overall, this technique accounts for increased patient comfort as well as neater and more efficient dressings. We recommend this conformational dressing technique, which can be applied in a variety of plastic surgical procedures.

The authors have no fiscal interest in the above-mentioned products.
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ARNICA AND HOMEOPATHY

Sir:
The safety and efficacy report on arnica1 highlights the impossible task of integrating alternative systems of healing into Western medicine. The report is scholarly, scientific, well researched, and well referenced. The problem is that it assumes that arnica behaves as a drug. It is not a drug. It is a homeopathic remedy. The two are not comparable by any Western scientific criteria. Arnica in homeopathic form has barely detectable or undetectable amounts of the arnica plant. It has no pharmacologic activity, no detectable blood levels after ingestion, and no known biochemical basis for its effects. It is, in short, not a drug. Consequently, it is hard to imagine a pharmacologic interaction with a Western drug.

The mechanism of action of homeopathic remedies is not known. Theories range from hormesis to pheromone-like effects to electromagnetic effects to “memory of water” and other informational transfer explanations. Most classic homeopathic practitioners believe that a remedy affects the “vital force” of the patient through the vibrational energy of the remedy. Vital force is the healing power or energy that exists within us. It is referred to as “chi” in traditional Chinese medicine and “prana” in ayurvedic medicine. Western medicine has no similar concept of a life force. This emphasizes the major reason for the impossibility of integrating alternative systems of medicine into Western medicine. The belief systems are so vastly incomparable to each other that Western medicine can only invoke the placebo response as an explanation for the documented effects of homeopathy. Any energetic explanation is rejected because it cannot be measured. We should recall that it was impossible to imagine how puerperal fever was transmitted until we could see microbes. We will one day be able to measure the energetic effects of homeopathic remedies and other energetic healing interventions.

If we do choose to offer the benefit of homeopathy to our patients, we might at least use the remedies as Samuel Hahnemann intended. The remedy of choice is based on the specific imbalance in the vital force of the individual patient. Although giving an acute remedy like arnica to postoperative patients with bruising and related soreness may by chance be the appropriate remedy for some of them, many others will feel no effect but would benefit from a different remedy. For instance, if my postoperative pain is of a sore, bruised variety, accompanied by ecchymosis, and yours is a stinging pain with redness and soft swelling, we would benefit from entirely different remedies in a homeopathic system, whereas a West-

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ern medical doctor would most likely prescribe the same drug for both of us.

The study of homeopathy is as complex and challenging as that of Western medicine. The idea that we can understand and manipulate this rich and fascinating concept of healing from a Western perspective is an arrogance that robs us of its potential benefits. Attempts to extract arnica from its homeopathic home and inject it into the Western medical paradigm can only disable it. Why not make use of the wisdom of our homeopathic colleagues and seek their assistance in choosing the right homeopathic remedy for each individual patient? What do we have to lose?

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Judith J. Petry, M.D.
P.O. Box 172
Westminster, Vt. 05158

REFERENCE

FATAL PULMONARY EMBOLISM

Sir:

The startling article by Drs. Bowen, Bray, and Witt, entitled “Fatal Pulmonary Embolism in a Young Morbidly Obese Patient with Small Burns” (Plast. Reconstr. Surg. 112: 930, 2003), fails to mention the most important and profound prophylaxis for deep vein thrombosis that may have prevented this tragedy; that is, general anesthesia causes complete relaxation of the gastrocnemius and soleus muscles so that the large veins suffer from stagnation, even in a brief operation as described by the authors. It is this stagnation caused by general anesthesia that results in deep vein thrombosis and subsequent pulmonary embolism. The simple prevention is to not use general anesthesia. Valium and ketamine provide a safe, simple means of obtaining a comfortable and safe patient with none of the sequelae.

A recent study in the anesthesiology literature showed that ketamine decreases platelet adhesion and further constitutes an additional preventive means for deep vein thrombosis. The authors “await definitive risk assessment through the combination of prospective clinical studies and basic scientific research.” Those studies have already been done. All of the deep vein thromboses and complications that occur in plastic surgery patients are associated with nervous system-depressant medications such as intravenous narcotics, which lead to the same devastating sequence of events that begins with deep vein stagnation.

Ketamine and Valium dissociative anesthesia alone allows any surgical procedure to be performed without interference with muscle tone and therefore is the safest and simplest means of preventing such tragedies. The problem is clearly outlined in the Cosmetic Viewpoint article in the same issue entitled “Venous Thromboembolism in Cosmetic Plastic Surgery: Maximizing Patient Safety,” wherein the incidence of deep vein thrombosis is variously measured as between 1.4 percent and 8 percent, with a risk of pulmonary embolism as high as 4 percent. Again, throughout that article, instead of connecting the dots to the single common denominator (i.e., general anesthesia), and while data for the important subject are currently being gathered, included in the data should have been the elimination of the problem by the use of Valium and ketamine dissociative anesthesia for safety’s sake.

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Robert A. Ersek, M.D.
630 West 34th Street
Suite 201
Austin, Texas 78705
ersek@ersek.com

REPLY

Sir:

Thank you very much for allowing me to respond to Dr. Ersek’s comments. I think I was as startled by his correspondence as he was by mine. The central idea of his remarks is that the fatal complication described in the case report could have been averted had ketamine/Valium been used instead of general anesthesia. Technically, I would not quibble with him on this point. After all, if you do not walk across the street, you will not get hit by a car. But while Dr. Ersek rightly points out the potential dangers of deep vein thrombosis associated with general anesthesia, he oversimplifies by asserting that ketamine/Valium dissociative anesthesia is a safe, simple solution for “any surgical procedure.” In so doing, he fails to recognize the uniqueness of the clinical situation described in the report. To wit, I would respectfully address several of his remarks.

Dr. Ersek cites the cosmetic surgery literature to fortify his claim. I am sensible of the trend among many cosmetic surgeons to perform their procedures under local anesthesia, the combination of local anesthesia and intravenous sedation, or ketamine/Valium. I welcome this trend and would expect to see a diminution in rates of cardiopulmonary complications as a pure consequence of avoiding general anesthesia. But what is good for the goose is not always good for the gander. The cosmetic surgery patient, under most circumstances, is not morbidly obese. Most people who request cosmetic surgery do not weigh more than 400 pounds. Most do not present to their plastic surgeon on an emergency basis, leaving him or her no choice but to operate. Nor do most routinely have massive bull necks. Nor do they routinely have redundant dysplastic veins of adiposity in their axillae. These considerations make regional (i.e., axillary/cervical block) or local anesthesia in the morbidly obese patient pretty difficult. The broader issue though is patient safety. The use of regional anesthesia or dissociative anesthesia in the morbidly obese patient is dangerous. Everybody’s worst nightmare in the operating room is loss of airway. Use of ketamine/Valium does not guarantee against loss of airway, even if it does preserve reflexes and muscular tone. These agents alter pulmonary mechanics. Patients frequently hypoventilate and sometimes obstruct their airways. Morbidly obese patients would probably do both. My guess is that most anesthesiologists would insist on complete control of the airway when approaching the morbidly obese, and thereby leave themselves unexposed to the risk of airway compromise. It is ironic, therefore, that Dr. Ersek advocates ketamine/Valium “for safety’s sake.”

Does Dr. Ersek really believe that the patient described in the case report would be a good candidate for dissociative anesthesia? I personally interviewed all 18 anesthesiologists at my tertiary care 250-bed children’s hospital and presented them with the