Post-Mastectomy Pain Found to Be Common: Treatment Options Sparse, but Growing

Although its sharp stabs of pain superimposed on feelings of an acheing, burning tightness can also occur after lumpectomy, post-mastectomy pain syndrome—usually abbreviated as PMP—is the phenomenon's official name. And although it can make an agony of the lightest touch or slightest movement, there are clinicians who doubt that the phenomenon exists.

Christine Miaskowski, Ph.D., who chairs the Department of Physiological Nursing at the University of California, San Francisco, said she first realized this when she was working at a New York City pain center where women who had recovered from breast cancer surgery were among the clientele.

"Some would come in with shoulders that had become frozen because their arms hurt too much to move," she said in a telephone interview. "Yet their surgeons had typically told them that the pain must be imaginary because there had been no recurrence of their cancer and their incisions had long since healed. One patient—I’ll never forget her—had been hospitalized in a psychiatric institution, having been told to her face that the only possible explanation for her pain was that she was a postmenopausal crock."

How common the problem is, no one really knows. But based on a study she did with UCSF colleagues—which controlled for pain due to tumor involvement and/or lymphedema—Miaskowski believes that "about 20% of women who have breast cancer surgery are faced with chronic stable pain of long duration" as a result. And that figure may be conservative. The findings of a somewhat similar University of California, San Diego, study suggests that the rate may be double that. (Both studies were retrospective surveys and entailed the use of patient questionnaires.)

Nerve Trauma

Mark Wallace, M.D., an anesthesiologist and the lead author of the UCSD study, said at a recent meeting on pain and gender held by the National Institutes of Health's Pain Research Consortium that surgical trauma to the intercostal brachial nerve is the principal cause of PMP. Besides innervating the anterior chest, this peripheral nerve has tributaries that branch into the armpit and upper arm.

"For this reason," said Wallace, "the risk of PMP is not only from the surgery on the breast itself, but also from the axillary node dissection done in conjunction with it. If anything, in fact, the risk from the dissection is greater because the anatomy of the nerve’s branches varies from patient to patient which can make them hard for the surgeon to identify and to preserve intact."

Wallace, accordingly, is excited about sentinel node mapping and biopsy (see previous article) as a possible substitute for conventional axillary dissection, an enthusiasm he shares with his wife, Anne Wallace, M.D., who is a breast and plastic surgeon at UCSD. Because the mapping procedure is less invasive, the couple believes that those patients for whom it is appropriate—i.e., those for whom it can be done without sacrificing optimal cancer treatment—may be less likely to develop PMP and so are working on a protocol that would test that idea.

Richard Payne, M.D., a neurologist who has headed the pain management service at the University of Texas M. D. Anderson Cancer Center in Houston for 6 years, said in an interview that PMP is nerve injury pain that is much like the phantom pain many limb amputees experience. He stressed that although axillary dissection can cause both PMP and lymphedema, the two can readily be told apart. Payne has seen "three to four" new PMP patients a month over the past several years.

"With PMP," he explained, "the pain is felt specifically along the distribution of the intercostal-brachial nerve, starting with the area over the incision on the chest and radiating into the arm on that side of the patient’s body. Lymphedema,
too, is on the operated side, but is really just a heavy, swollen arm. While the swelling can be painful, the pain does not have the squeezing, constricted quality and associated sensory impairment that is the tip-off to PMP.

Payne said that PMP patients need to be assured that their pain is not due to cancer recurrence and told it is important to get physical therapy to maintain the mobility of the shoulder on the affected side. “Without physical therapy and exercise to keep this joint moving,” he warned, “it will begin to freeze up and become a source of secondary pain.”

As for pain medication, PMP is a form of nerve injury which, Payne said, makes a tricyclic antidepressant — amitryptiline, for example — a logical choice and one that can be supplemented with an over-the-counter pain reliever such as ibuprofen. (Apart from their effect on depression, tricyclics are thought to exert an independent effect on nerve injury pain.) But if there are contraindications to these or they provide inadequate relief, he does not hesitate to prescribe an opioid — even, in some cases, morphine.

But isn’t this potentially addictive for the patient? Payne thinks not. “The incidence of iatrogenic addiction in patients with chronic nerve injury pain — PMP included — is 0.1%, except when there has been a pre-existing substance disorder,” he said. “And we have successfully treated even these patients [with opioids] by keeping them on a short leash.”

Nor does he sympathize with physicians who are reluctant to prescribe opioids for PMP because they fear that the federal Drug Enforcement Administration might then make trouble for them. He likened this concern to what he called “the state trooper syndrome,” in which motorists who are not speeding are, nonetheless, uneasy when they see a police car on the road. “The use of narcotics for pain control is a legitimate part of the practice of medicine.” he said, “and it is recognized as such by the DEA.”

Aware that current options for the management of PMP are limited, Payne is committed to a search for more. Among his studies is one of a drug that has a different mechanism of analgesic action than those now routinely prescribed for nerve injury pain — it binds to N-methyl-D-aspartate receptors. Payne plans to continue this phase II controlled trial even though he will soon have a new job as chief of the pain and palliative care service at New York City’s Memorial Sloan-Kettering Cancer Center.

— Judith Randal