ONCOLOGY TIMES

Independent News on
HEMATOLOGY / ONCOLOGY

Special Edition Supplement to April 25, 2015 issue


Meeting Reporter:

# Miami Breast Cancer Conference

February 26 - March 1, 2015



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# Innovations in Pain Management

BY ROBERT H. CARLSON

MIAMI BEACH—Cancer patients undergoing surgery benefit from a multimodality approach to anesthesia, when analgesics are used in combination with narcotics in place of high doses of narcotics alone.

Reet Lawhon, MD, Director of Regional Anesthesia at Maimonides Medical Center in Brooklyn, NY, a speaker here at the Miami Breast Cancer Conference, discussed recent innovations in pain management.

In introducing him, Conference Program Chair Patrick Borgen, MD, said that in preparing this year's meeting it became clear that there had never been anything on pain control in the entire 32-year history of the conference, so it was important to add it this year.

## New Direction

"We have great data showing a new direction in pain relief, with longer-acting medications and the ability to give the patient a much better outcome from surgery in the long-term, Lawhon said.

The number one cause for hospital re-administration after cancer surgery is pain management. But interestingly, he said, patients report that their number one concern when they are about to undergo anesthesia is that they will be sick to their stomach. Whether their pain will be controlled is the patient's second concern.

## Current Anesthesiology Research

Anesthesiology research today focuses on the reduction of narcotics for surgical patients, Lawhon said. In the preoperative phase, analgesia often includes a COX-2 inhibitor such as Celebrex, or tramadol. There is also increased interest in the potential role for low-dose morphine.

Patients with anxiety disorders are a concern, Lawhon said. They may self-medicate before surgery, which they may or may not tell the physician about. And their systems may have built up a tolerance to numerous central nervous system depressants. Anxiolytics may be necessary for these patients.

As a result of the surgical incision, cytokines and other inflammatory mediators play a role in the development of chronic pain.

"Postoperative pain increases afferent stimulation and activity in both the peripheral and central nervous systems, both in the operating rooms and after surgery. This increases the likelihood of developing chronic pain."

> "The number one cause for hospital re-administration after cancer surgery is pain management."

Lawhon said uncontrolled pain may have an impact on cancer recurrence, as adrenergic stimulation results in reduction in NK cells, humeral and cell mediated immunity, and angiogenesis.

## Paravertebral Block

Lawhon discussed paravertebral block, which he said is not a new technique, having been first introduced in 1906. But until recently the optimal dosage, timing, and choice of location were not well understood.

The procedure is generally done for breast cancer surgery in two levels, T2-3 and T4-5. "Recent data show that if the paravertebral block is done before surgery, it blocks many of the responses the patient will have to a surgical incision," he said.

A paravertebral block can be done in the holding room under mild sedation or in the operating room. A paravertebral block with bupivacaine can provide 18 to 24 hours of pain relief—"it is the longest-acting anesthetic we have," Lawhon said.

Liposomal-encapsulated bupivacaine can average 55 to 60 hours of pain relief. "Within 15 to 20 minutes the patient should have a significant amount of pain relief; this allows us to give less narcotics in the operating room—perhaps 25 percent of what it would be without the paravertebral block."

Possible complications include a failed block, vascular puncture, pleural puncture, hypotension, and pneumothorax.

Paravertebral block for mastectomy patients may reduce the risk of metastases, he said, citing a retrospective study that demonstrated that regional anesthesia in combination with general anesthesia was associated with a longer cancer-free interval and a lower incidence of recurrence (***Exadaktylos et al: Anesthesiology 2006;105:660-664***).

The authors—from Mater Misericordiae University Hospital, National Breast Screening Program-Eccles Unit, in Dublin, Ireland—speculated that regional anesthesia might help to maintain perioperative immune function by reducing general anesthesia requirements and by sparing postoperative opioids, and thus preventing the dissemination of malignant cells. The group that had paravertebral block had significantly less pain at four and at 24 hours, and at four years follow-up had reduced recurrence and metastasis.

"We're not sure if whether it is actually the blocks themselves, or the enhanced pain relief from some of the newer agents, or the avoidance of narcotics, which can increase both angiogenesis at the tumor site and the volume of tumor as a response to a narcotic," they said.