Ziconotide offers non-opioid alternative for treating chronic severe pain.

Rapid response team aims at faster, more effective intervention for failing inpatients.

Bennett Breast care center offers patients a central location for obtaining many services.

Breast reduction and reconstruction procedures improve quality of life for many women.

Management of patients with interstitial cystitis can be challenging but rewarding.
Ziconotide, a neuron specific compound that functions as a powerful non-opioid analgesic, is becoming more important in the pain physician's armamentarium, according to neurologist Daniel Lalonde, M.D., a pain management specialist at Central Maine Medical Center.

After three decades of extensive clinical research, Ziconotide was the first new intrathecal analgesic approved by the Food and Drug Administration since morphine received a similar endorsement more than 20 years ago.

Ziconotide was granted FDA approval for intrathecal infusion in December 2004 following a study of more than 1,200 patients with severe chronic pain who required intrathecal therapy and were intolerant of or refractory to other treatments.

Also called Prialt, Ziconotide is the synthetic equivalent of a 25-amino acid peptide present in the venom of Conus magus, a South Pacific marine cone snail. Its use represents a novel breakthrough in combating cancer pain and chronic intractable nonmalignant pain.

**MECHANISM OF ACTION**

“Ziconotide controls pain by targeting and blocking N-type voltage-sensitive calcium channels on sensory nerve cells, thus preventing the conduction of pain signals in the dorsal column of the spinal cord,” Dr. Lalonde explains.

The new analgesic blocks presynaptic calcium influx at the presynaptic terminal, which prevents neurotransmitter vesicle fusion with the presynaptic membrane. The net effect is prevention of vesicular release of several neurotransmitters, including glutamate, substance P and calcitonin gene related peptide, into the presynaptic junction. This action, in effect, blocks the message from the first-order afferent A-delta and polymodal C-fibers to the second-order ascending neurons in the dorsal horn.

“Ziconotide has several major advantages when compared to opioids such as morphine,” Dr. Lalonde says. “It is not addictive and patients do not develop tolerance, which is commonly seen with opioids. Ziconotide does not cause respiratory depression, the most serious side effect of opioid medications. Furthermore, it does not cause constipation, another common and potentially serious side effect with opioids.”

**INDICATIONS**

Ziconotide is delivered by an intrathecal pump, a specialized device that infuses concentrated amounts of medication directly into the cerebrospinal fluid (CSF) surrounding the dorsal horn of the spinal cord.

The new analgesic was found to significantly reduce severe chronic pain of various etiologies and pain related to cancer. Chronic nonmalignant pain conditions such as failed back surgery, RSD, and multiple sclerosis have responded well to Ziconotide intrathecal infusion.

**SUMMARY**

Pain reduces quality of life for many people. Ziconotide is an innovative new treatment and an important therapeutic advance for patients who suffer from severe chronic pain.

“As an alternative to intrathecal opioids for pain treatment, Ziconotide has broad implications for the future of pain medicine. There is also tremendous potential for using it with various combinations of intrathecal analgesic agents, which would allow the pain specialist to customize medications to the individual patient’s pain, and indeed, make a difference,” Dr. Lalonde concludes.

Central Maine Pain and Headache Center 795-2927 or 1-800-308-0460
Central Maine Medical Center has implemented a new system for more quickly identifying and treating inpatients whose condition might be worsening, according to the Medical Center’s chief medical officer.

CMMC’s Rapid Response Team expedites the delivery of critical care expertise to the bedside with the goal of improving patient care outcomes and reducing mortality, says CMMC Chief Medical Officer Larry Hopperstead, M.D.

The Rapid Response Team combines the skills of a critical care nurse and a respiratory therapist in an immediate response mode that focuses on inpatients who are showing signs of an impending cardiac arrest.

“It’s a treatment approach that seeks to rescue patients from whatever compromise they might be in,” Dr. Hopperstead says.

An important aspect of this approach, he explains, is that it recommends a “full exploration of the gut feeling” that bedside nurses often have when a patient’s condition declines over a period of several hours. “The rapid response system encourages nurses to use not only their clinical skills but their intuition to evaluate the patient and determine if it is a rescue event,” he says.

In a typical rapid response situation, the bedside nurse identifies a possibly failing patient, determines the potential cause of the problem, and attempts to correct the situation. If the correction isn’t effective, or if the nurse feels the problem is beyond his or her skill set, they may call the attending physician. If the situation warrants immediate action, the nurse calls the Rapid Response Team.

“When the nurse calls the Rapid Response Team, the patient is served by the power of three in a collaborative decision-making process. Together, the bedside nurse and the team provide the extreme focus required to deal with an emergent problem,” Dr. Hopperstead says. “They use their collective evaluative skills and a cockpit communications style to quickly change the course of a patient’s care.”

A “cockpit communications style” is a way of delivering a message that better assures a fully informed, direct response from the physician managing the patient’s care. Also known as SBAR communications, the nurse or respiratory therapist attempts to command the physician’s full attention through a succinct verbal presentation that summarizes situation, background and nursing assessment, and makes a specific recommendation for action.

Dr. Hopperstead says rapid response teams – also called medical emergency response teams – were first developed in Australia. When Australian researchers found that in-hospital cardiac arrest rates fell by more than 60 percent and in-hospital mortality dropped by 25 percent, European hospitals began adopting the system. Now, U.S. hospitals are developing similar systems.

“The evolution of the rapid response team concept came from the understanding that most people who progress to cardiac arrest in a hospital do so in a course of decline over four to six hours,” Dr. Hopperstead explains. “Simple interventions, if done early in the destabilization process, can keep patients from going on to cardiac arrest. The trend in managing these patients has been to identify them earlier and move them into an environment where intervention is faster and more comprehensive.”

Dr. Hopperstead is careful to point out that the ultimate success of the Rapid Response Team rests on the skills of the bedside nurse in interpreting information about the patient’s health status, and on the Rapid Response Team’s ability to intervene.

“There has been a positive and avid response to this system by nursing. The nurses are wholeheartedly behind this. The critical care nurses and respiratory therapists have embraced the initiative and their participation has been crucial to its success to date,” Dr. Hopperstead says.
In 1998, Central Maine Medical Center created the Sam and Jennie Bennett Breast Care Center to offer the very best in comprehensive breast care – including screening, diagnosis and treatment of breast disease – in a comfortable, relaxed setting.

Coordinated care by a team of highly skilled, supportive healthcare professionals is the hallmark of the center’s breast care services.

At the Bennett Center, radiologists, pathologists, surgeons, medical and radiation oncologists, and primary care physicians work together to develop the best treatment plan for each woman diagnosed with breast disease. Because the center coordinates breast care services, the time required for women to get appropriate care has been greatly reduced.

Screening for breast cancer is one of the center’s most important roles. Diagnostic services available at the Bennett Center include imaging exams such as mammography and ultrasound. Also available is stereotactic core biopsy, a procedure that involves obtaining a tissue sample from a breast lesion through the use of a computer-guided needle, thus minimizing the discomfort and expense of a traditional surgical biopsy.

CMMC also offers sentinel lymph node mapping, a procedure that can reduce a woman’s risk of developing lymphedema after surgery. Women who develop lymphedema can benefit from a specialized program of exercise, wrapping, and massage led by a specially trained occupational therapist and nurse.

Recognizing that positive health benefits result when a woman feels good about her appearance, the Breast Care Center offers a range of services to help women find strength and confidence in coping with breast disease. These include help with decisions about breast reconstruction, prosthesis fitting, and referral for wigs and apparel.

Located in Suite 103 of the 12 High Street Medical Office Complex, the Bennett Breast Care Center is named in honor of the late Jennie and Sam Bennett of Auburn, long-time hospital and community supporters who provided the lead gift contributing to the establishment of the center.

For more information, call the Bennett Breast Care Center at 207-795-2100.
Throughout history and across cultures the breast has been a prominent symbol of nurturing, fertility, youth and femininity. The breast has also been the subject of debate in our society that has helped define public opinion regarding morality, fashion and entertainment.

“The breast is subject to many different conditions such as breast enlargement, or macromastia, trauma and infection, breast cancer, congenital deformities and developmental anomalies such as asymmetry or involutional sagging, which can alter the appearance of the breast and cause physical and emotional discomfort,” says plastic surgeon Steven Bonawitz, M.D., of Northeast Plastic Surgery in Lewiston.

In addition to cosmetic procedures such as augmentation and breast lift (mastopexy), plastic surgeons frequently perform breast surgery for functional or reconstructive purposes. Dr. Bonawitz says the two most common procedures are breast reduction and reconstruction.

**BREAST REDUCTION SURGERY**

Breast enlargement can produce symptoms of pain in the upper back, neck and shoulders, infections and excoriation beneath the breasts and headaches. In some cases pain and numbness may extend down the arms and shoulders indentation. Irritation or excoriation may develop beneath bra straps.

Non-surgical therapies may help temporarily, but studies have shown that the symptoms usually recur when the treatments cease. Insurance providers nevertheless often require a course of non-operative management documented by the primary care provider prior to authorizing surgery.

“Surgical breast reduction has been shown in numerous studies to result in a significant improvement in symptoms in up to 96 to 97 percent of women,” says Dr. Bonawitz.

Breast reduction surgery was performed over 105,000 times in the United States in 2004.

**BREAST RECONSTRUCTION**

State and federal law mandates that insurance companies cover breast reconstruction following mastectomy in the method chosen by the patient and surgeon and also provide for modification of the contra lateral side for reasons of symmetry. Reconstruction is performed with either implants or flaps from the abdomen (TRAM) or back (latissimus). The choice of method depends on patient preference and a careful pre-operative evaluation by a plastic surgeon experienced in breast reconstruction techniques. More than 62,000 of these operations were performed in the United States in 2004.

Some patients may not be candidates for certain procedures and a past history of problems such as significant heart or lung disease and cigarette use may affect the decision. Reconstruction may be performed at the time of mastectomy or at a later time.

With immediate reconstruction the plastic surgeon works as part of the oncologic team, which may include the oncologic surgeon, medical oncologist, radiation oncologist and other therapists. A skin sparing type of mastectomy may be performed to conserve as much natural breast skin as possible and to hide scars to create a superior aesthetic result. Dr. Bonawitz says studies show that breast reconstruction does not have any significant effect on recurrence rates, detection of recurrence, or the prognosis of the underlying disease.

“Breast reconstruction following mastectomy helps preserve or restore self-esteem and self-image and can improve a woman’s attitude and optimism toward the treatment of breast cancer,” he says.

There are many sources of information regarding plastic and reconstructive surgery, but the best source remains a surgeon certified by the American Board of Plastic Surgery.

Northeast Plastic Surgery 207-795-6543
Interstitial cystitis (IC) is a chronic, inflammatory, non-infectious bladder condition with non-specific histologic changes, affecting both men and women. Recent epidemiologic data indicates that its prevalence may be higher than the previously estimated 0.1 percent of the population, according to urogynecologist Ted M. Roth, M.D., of the Women’s Specialty and Bladder Control centers at Central Maine Medical Center in Lewiston.

IC’s symptoms include urinary frequency and/or urgency, dyspareunia, and chronic pelvic pain. Some 90 percent of patients affected are female with a median age at diagnosis of 40. Left unchecked, symptoms can progress and may result in social isolation, depression, anxiety, and, in rare instances, even suicidal ideation.

POSSIBLE CAUSES AND DIAGNOSIS

Possible causes of IC include abnormal bladder epithelial permeability, neurogenic abnormalities, autoimmune disorders, allergic reactions, and infectious etiologies, or it may present as part of a visceral pain syndrome.

The differential diagnosis of chronic pelvic pain may involve multiple organ systems. It may be difficult to distinguish pain caused by IC from pain associated with endometriosis, irritable bowel syndrome (IBS), urinary tract infection, vulvodynia, non-bacterial prostatitis, and fibromyalgia. Clinicians should entertain a diagnosis of IC for any patient who presents with symptoms of pelvic pain and/or urinary urgency/frequency,” says Dr. Roth.

At CMMC, validated symptom-based questionnaires serve as non-invasive screening tools for identifying IC. The Pelvic Pain and Urgency/Frequency (PUF) scale can predict a positive Potassium Sensitivity Test (PST), which is used to assess the permeability of the bladder epithelium.

“The PST may be particularly unpleasant. Our preference is to instill a solution of 2 percent lidocaine into the bladder. A presumptive diagnosis of IC is made if symptom reduction follows the instillation of the anesthetic,” Dr. Roth explains.

TREATMENT

“Our approach to treatment of IC involves both pharmacologic and non-pharmacologic intervention,” Dr. Roth says. “Pentosan polysulfate sodium – also called Elmiron – is the only FDA approved oral agent for IC. Efficacy is high with 61 percent and 74 percent of patients experiencing symptom improvement in three months and six months, respectively.”

Adjunctive medications include anti-histamines, tri-cyclic antidepressants, and anticholinergics. Alternatively, intra-vesical installations with diethyl sulfoxide (DMSO), heparin, and/or lidocaine may also be used for symptom relief.

Non-pharmacologic therapies include a low-oxalate diet, avoidance of flare-inducing foods, bladder training, stress management techniques, and physical therapy. Sacral neuromodulation (Interstim) may also have a role in the treatment of IC and is available to patients at the Bladder Control Center of CMMC.

Patients should be encouraged to learn as much as possible in order to take control of their symptoms of IC. Good online resources include www.allaboutIC.com and www.orthoelmiron.com

"Caring for patients with IC can be frustrating for clinicians, but treatment can be effective. Relief of a patient’s suffering and restoring their quality of life can be one of the most gratifying relationships we have with our patients,” Dr. Roth says.
Central Maine Medical Center

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