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Basic Research of Chronic Pelvic Pain

By

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(1) BASIC RESEARCH OF CHRONIC PELVIC PAIN

(2) CLINICAL TREATMENT OF CHRONIC PELVIC PAIN

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The International Association for the Study of Pain defines chronic pelvic pain without obvious pathology as chronic or recurrent pelvic pain that apparently has a gynecological origin but for which no definitive lesion or cause is found (Merskey and Bogduk 1994). This definition has not been widely used in the literature (Campbell and Collett 1994). The problem with this definition is that it (1) implies absence of pathology, which is not necessarily the case, and (2) it also excludes cases in which pathology is present but not necessarily the cause of pain. In fact, the relationship of pain to the presence of pathology is often unclear in women with chronic pelvic pain. We will refer here to chronic pelvic pain as pelvic pain in the same location for at least 6 months (ACOG Technical Bulletin 1996). Many chronic pain states begin with a nociceptive process, although that event might go unrecognized or unremembered.

Chronic pelvic pain is a common and debilitating problem that can significantly impair the quality of life of women. Overall, a woman has about a 5 percent risk of having chronic pelvic pain in her lifetime. Recent epidemiological data from the USA showed that 14.7 percent of women in their reproductive ages reported chronic pelvic pain (Mathias et al. 1996). Fifteen percent of these women with chronic pelvic pain reported time lost from work and 45 percent reported reduced work productivity. Estimated medical costs for outpatient visits for chronic pelvic pain in the United States are \$881.5 million per year (Mathias et al. 1996). The personal cost to the affected woman in terms of years of suffering, disability, marital discord, loss of employment and unsuccessful medical intervention can be calculated less easily.

Patients with pelvic pain are usually evaluated and treated by gynecologists, gastroenterologists, urologists and internists. In many cases the focus is on finding and treating the underlying etiology of the chronic pain syndrome and these patients often undergo many diagnostic tests and procedures. However, often the examination and work-up remain unrevealing and no specific cause of the pain can be identified. Although these patients are often depressed, rarely are the chronic pelvic pain syndromes the only manifestation of a psychiatric disease. In these cases it is important to recognize that the patient is suffering from a chronic pain syndrome and to direct treatment strategies towards symptomatic pain management. Despite the challenge inherent in the management of chronic pelvic pain, many patients can be treated successfully (Wesselmann 1998). Effective treatment modalities are available to lessen the impact of pain and offer reasonable expectations of an improved functional status.

Chronic pelvic pain belongs to the category of chronic visceral pain. Although persistent pain of visceral origin is a much greater clinical problem than that from skin, the overwhelming focus of experimental work on pain mechanisms relates to cutaneous sensation. The neurophysiological mechanisms underlying visceral pain are poorly understood. In the past 10 years several different animal models have been developed to study the behavioral manifestations, the neurophysiology and neuropharmacology of somatic pain. The greatest contribution of these animal models may lie in their use to study the effects of traditional analgesic therapies and to develop new analgesic therapies, rationally targeted upon the pathophysiological mechanism. In contrast, very few animal models have been developed to study visceral pain (Berkley and Hubscher 1995). The reason for this is that, similar to the clinical situation, the manifestations of visceral pain in animal models are more difficult to describe and to quantify than somatic pain. Until relatively recently, it was often assumed that concepts derived from cutaneous studies could be transferred to the visceral domain. However, there is experimental evidence demonstrating that the neural mechanisms involved in pain and hyperalgesia of the skin are different from the mechanisms involved in painful sensations from the viscera. We have recently developed an animal model of inflammatory uterine pain in the rat (Wesselmann and Lai 1997, Wesselmann et al. 1998). This model will allow to study pain pathways of uterus and the effects of interventions for the treatment of uterine pain in the future.

Progress in chronic pelvic pain management is likely to come from the combination of basic science and clinical research studies: (1) It is important to develop specific models of pelvic pain in which the peripheral and central processing of visceral information and its pharmacological manipulation can be studied. (2) Clinical studies are necessary to assess the characteristics of

pelvic pain syndromes and controlled clinical trials are important to study the effects of traditional analgesics and of new analgesics targeted against the pathophysiological mechanisms of visceral pain syndromes (based on basic science studies).

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