INTRODUCTION

Chronic pain following surgical procedures for breast cancer was once thought to be rare. The results of recent studies, however, suggest that the incidence of chronic pain following breast cancer surgery may be over 50% (Tasmuth et al., 1995; Kwekkeboom, 1996; Fassoulaki et al., 2002).

Nowadays more patients are surviving breast cancer as a result of progress in diagnosis and treatment. The population at risk for chronic pain and other late complications can, therefore, be expected to increase in coming years (Jung et al., 2003). Surgical removal of the tumor, or the whole breast, with or without axillary lymph node dissection is currently the most common treatment for breast cancer. Regardless of the type of surgery (lumpectomy or mastectomy), about 13% - 68% of these women develop a chronic post-mastectomy pain syndrome following breast cancer surgery (Tasmuth et al., 1995; Kwekkeboom, 1996; Jung et al., 2003).

Since so many women develop breast cancer ("one out of nine"), there are a large number of women that are likely to develop chronic pain during their lifetime (by simple calculation nearly one of each eighteen female will suffer one of the manifestations of PMPS). Like other syndromes of chronic pain, PMPS causes suffering that affects the quality-of-Life, depression and disrupts daily domestic and occupational activities (Jung et al., 2003).

Post-operative complications include pain, phantom sensations, and sensory loss or changes. Chronic pain can be a source of considerable disability and psychological distress (Wyatt and Friedman, 1998; Velanovich and Szymanski, 1999; Kuehn et al., 2000).

Identification of risk factors for post-mastectomy pain syndrome is necessary if we wish to prevent it in the future. Determining what these factors could enable clinicians to identify patients who have the greatest need for preventive efforts because of their increased risk for chronic pain (Jung et al., 2003).

This knowledge is important for our understanding of the natural history of the syndrome, as well as the underlying pathophysiological mechanisms.

Chemotherapy and radiotherapy can be additional sources of pain and related symptoms and make diagnosis difficult. More patients are surviving breast cancer as a result of progress in diagnosis and treatment.

This essay reviews epidemiology, pathophysiologic mechanisms, treatment, and prevention of chronic pain following different breast cancer treatment modalities.