

Introduction:

Shaping Oncology Nursing Care for the Future

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A quiet revolution is occurring in oncology practice, one that is being fueled by a philosophical shift in nurses' approach to managing patients with cancer. This shift removes the singular focus on curative or life-prolonging treatment and replaces it with the recognition that continuous symptom management and pain control, integrated from the time of diagnosis through all stages of cancer, are essential to improving patient management and optimizing patient outcomes. Unfortunately, the reluctance on the part of many clinicians to abandon the "either/or" approach to oncology treatment (Whedon, 2002) continues to pervade practice environments. In June 2001, the Institute of Medicine's (IOM's) National Cancer Policy Board issued a report (IOM, 2001) on the numerous challenges that continue to limit the integration of supportive and curative care, highlighting the paucity of clinical data, lack of adequate compensation, and absence of institutional practices and policies. Importantly, the IOM report emphasized that improvements in the development and delivery of symptomatic control, among other aspects of supportive care, had not kept pace with other medical advances in cancer management and cited that guidelines and quality indicators remained in the embryonic stages of development. Until these and other challenges are overcome, endless opportunities to optimize quality of life and reduce morbidity for patients with cancer are being lost.

Nowhere is the integration of supportive care into clinical practice more important than in oncology nursing. Nurses interact with patients before treatment is initiated and throughout the course of care. These interactions provide a strategic opportunity for oncology nurses to promote novel approaches that most likely are to reduce treatment-related morbidities and complications and improve quality of life. Strides are being made in this regard in mucositis (a cancer treatment-related inflammation of the oropharyngeal and gastrointestinal mucosa often associated with ulceration and functional disruption) and in chronic pain. Although "cures" for these problems have not yet been realized, a growing emphasis on the mechanisms underlying each may shed light on previously uncharted management strategies. Importantly, the premise of such a mechanism-based approach to diagnosis and treatment does not supersede the overall clinical goal of alleviating the global morbid experience but rather provides a more rational means by which it can be achieved (Woolf & Max, 2001).

A major challenge posed by mechanism-based assessment and subsequent treatment is that healthcare professionals do not yet possess advanced tools that discern the exact mecha-

nisms that are operating to produce specific symptoms in individual patients. Healthcare professionals commonly assume that specific diseases will produce symptoms (e.g., pain) by a single mechanism and that patients can be characterized accordingly; however, a single etiologic factor more likely produces pain by diverse mechanisms that act alone, sequentially, or concurrently (Woolf & Max, 2001). For example, as discussed by Dodd in her article in this supplement (see p. 5), recent work by Sonis (2003) suggested that mucositis is a multifactorial process that involves a complex interaction of biologic events occurring simultaneously in multiple cells and tissues at all levels. These events might be driven ultimately by genetic polymorphisms (e.g., the expression of transcription factors that, in turn, influence cytokine expression) that account, at least in part, for distinct manifestations among individual patients at various phases of the disease process. Similarly, data slowly are revealing the neurobiologic mechanisms that generate and maintain chronic pain and the means by which the central nervous system changes to modulate nociceptive responses that initiate the pain cascade.

Fortunately, researchers are starting to illuminate the ways that currently available diagnostic tools can be applied within this mechanism-based paradigm. For example, Eilers' article (see p. 13) discusses the relevance of symptom clusters in managing treatment-related effects, such as those associated with mucositis and chronic pain. Defined as three or more concurrent (or synergistic) symptoms that are related but not necessarily of the same etiology (Dodd, Miaskowski, & Paul, 2001), symptom clusters may predict future morbidity and therefore can be used to target interventions. For oral mucositis specifically, nursing interventions might begin with an assessment that identifies symptom clusters, followed by use of the Oral Assessment Guide to define specific oral cavity changes and guide subsequent care. A critical aspect of such

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a strategy is the need to understand mechanisms and processes that manifest as symptom clusters, as well as the point in the disease process when they occur.

Data from animal and clinical models similarly make the link between potential associations with certain pain mechanisms and specific symptoms. For example, a link appears to exist between peripheral sensitization (a process whereby exposure to certain agents may reduce the degree of stimulus required to generate electrochemical signals) and the level at which pain may be experienced when a noxious stimulus, such as heat, is applied to a site of inflammation (Woolf & Max, 2001).

As far as using this strategy to make rational management decisions, nurses must recognize that the multiple mechanisms that produce symptoms and related morbidities are not necessarily independent. Consequently, targeted treatment in and of itself might have the ability to alter variable actions and their manifestations at the same time (Woolf & Max, 2001), thereby producing either negative or positive effects. For example, although a drug treatment might cause a decline in the rate of signaling between sensory neurons and might directly reduce pain that arises spontaneously, it also could indirectly affect other related actions and lead to an overall decline in pain threshold. Conversely, certain drugs acting on multiple molecular targets simultaneously might lead to a greater reduction in pain. The delivery of targeted agents that act through novel mechanisms (e.g., cutaneously) might similarly facilitate a variety of positive effects.

In the near future, interventions likely will be characterized by their ability to produce a selective action on specific or multiple mechanisms. The implication for patients with cancer is great. To be most successful, mechanism-based management must be all inclusive, meaning that it addresses not

only the relationship between the mechanisms themselves but also their temporal aspects (e.g., when exactly in the disease process are they occurring and, at any specific time, how is the disease itself manifesting?). Ultimately, this may help to elevate supportive care (which in and of itself is highly reliant on the application of pain and symptom management at all stages of cancer and not simply when specific treatment is deemed a “failure”) to a position in cancer management on par with “curative” treatment. This movement, which appears to take place simultaneously on multiple levels within cancer care, represents an important opportunity for oncology nurses, one in which the clinical dichotomy that currently separates the concept of “cure” from that of “care” can be transformed.

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