Pre- and Postoperative Self-Reported Cognitive Effectiveness and Worry in Patients With Suspected Lung Malignancy

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Lung cancer is the leading cause of cancer mortality in the United States among men and women, making early detection, diagnosis, and treatment imperative (Bunyaviroch & Coleman, 2006; Siegal, Ward, Brawley, & Jemal, 2011). Increased sophistication in technology has enhanced early detection of minute solitary pulmonary nodules and improved diagnosis of very early-stage lung cancers (MacMahon et al., 2005; Smith et al., 2006). A diagnosis of suspected lung cancer is a cognitively and emotionally demanding experience that can occur when people feel healthy and are leading productive lives (Roth, Cox, & Hong, 2008). Worry, aversive perseverative cognitions that occur when threat is perceived (Brosschot, Gerin, & Thayer, 2006), can be a significant and sustained problem for individuals facing the possibility of a life-threatening illness such as lung cancer (Hay, Buckley, & Ostroff, 2005; Hill, Amir, Muers, Connolly, & Round, 2003). In addition, the need to learn about potential treatments and the life adjustments that come with a suspected diagnosis of cancer places additional demands on cognitive resources such as directed attention (Cimprich, 1992a, 1992b). Few research studies have examined worry and perceived cognitive effectiveness during the early postdiagnostic period following a suspected lung cancer diagnosis. Therefore, a purpose of the current exploratory study was to examine perceived cognitive effectiveness and worry among a select group of individuals with a suspected lung cancer diagnosis before and after surgical resection. A second purpose was to examine perceived cognitive effectiveness and worry among individuals who were and were not diagnosed with lung cancer after surgery.

Background and Significance

Surgical resection is the treatment of choice for stages I and II non-small cell lung cancer, a disease that is often detected by incidental findings of an abnormal pulmonary nodule via chest x-ray or chest computerized tomography (CT) scan (Gilbert et al., 2012). The majority of all lung cancer is diagnosed at advanced stages, contributing to its high level of associated mortality;

Purpose/Objectives: To examine perceived cognitive effectiveness and worry in individuals with suspected lung cancer before and after surgical resection and to determine any differences between individuals with and without a postoperative diagnosis of lung cancer.

Design: A repeated measures longitudinal design.

Setting: A comprehensive cancer center and a Veterans Administration medical center in the midwestern United States.

Sample: 15 men and 8 women aged 37–82 years ($\overline{X}$ = 61.4, SD = 10.7) with suspected lung cancer.

Methods: Descriptive statistics were used to characterize data. Paired t tests and nonparametric correlation analysis were used to determine relationships among the main study variables.

Main Research Variables: Perceived effectiveness in cognitive function as well as general and cancer-specific worry.

Findings: Patients diagnosed with lung cancer were significantly older. Patients self-reported lowered perceived effectiveness in daily activities that require directed attention both pre- and postoperatively. Patients with nonmalignant postoperative reports had higher general worry at each time point, which was significant following surgery.

Conclusions: A diagnosis of suspected lung cancer may contribute to compromised perceived effectiveness in cognitive function. Nonmalignant pathology following a diagnosis of suspected lung cancer may be associated with continued worry.

Implications for Nursing: Nursing assessment and interventions aimed at supporting effective cognitive function and modifying worry for patients with suspected lung cancer are essential to optimize adjustment.

Knowledge Translation: Suspected lung cancer imposes high demands on cognitive and emotional function. Oncology nurses are in key positions to support patients during and following the diagnostic workup for lung cancer. Younger patients with nonmalignant postoperative reports may need continued follow-up.