



The Experience of Patients With Neoplasm Metastasis in the Spine During a Magnetic Resonance Imaging Examination

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ABSTRACT: The aim of the study was to explore the experience of a magnetic resonance imaging (MRI) examination by patients with neoplasm metastasis in the spine. MRI is the most accurate method to diagnose and evaluate suspected metastatic disease in the spine. Patients may experience anxiety because of the fear of pain, fear of the unknown, and the apprehension about what the test might reveal. The study had a qualitative design, and the collected data were analyzed by means of latent content analysis. Twelve semistructured in-depth interviews were carried out starting with the question "Can you tell me about your experience of the MRI examination?" Four themes were identified: "motivation," "worry and anxiety," "insecurity," and "security." The patients were highly motivated to be examined by MRI, although most of them did experience some degree of worry or anxiety. The level of worry or anxiety was generated by the perception that an MRI examination was unpleasant, uncomfortable, or by the fear of what the result would show. All participants experienced some degree of insecurity, but in different ways, the insecurity of the patient could be reduced and the patients could experience a greater degree of security. The feelings of insecurity or security could be influenced by the radiographer, patients themselves, and MRI equipment. This study shows that most patients usually experience worry and anxiety. If the patients are motivated, they can manage to go through the examination in spite of the previously mentioned adverse feelings. Patients' feelings tend to fluctuate between a sense of insecurity and one of security. (J Radiol Nurs 2014;33:191-198.)

KEYWORDS: Magnetic resonance imaging; Nursing; Anxiety; Cancer; Care; Nurse-patient relationship.

INTRODUCTION

Magnetic resonance imaging (MRI) is the most accurate method to diagnose and evaluate suspected metastatic disease in the spine (Abdi, Adams, Foweraker, & O'Connor, 2005). This examination is very important for the patient's survival and future treatment (Fisher, Mayer, & Struthers, 1997). Patients with neoplasm metastasis in the spine are often experiencing severe pain because of the disease (Fisher et al., 1997; Struthers, Mayer, & Fisher, 1998), and it is also known that during an MRI examination, the patients may experience claustrophobia, worry, and anxiety (Blanchard et al., 1997; Katz, Wilson, & Frazer, 1994; McIsaac, Thordarson, Shafran, Rachman, & Poole, 1998). The patients are

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likely to undergo MRI several times, and it is thus important to gain knowledge of these experiences and also about how to improve the quality of patient care.

BACKGROUND

Neoplasm metastasis in the spine is a common disease, and the symptoms are present in up to 10% of patients who have some form of cancer (Grant, Papadopoulos, & Greenberg, 1991; Sundaresan, Digiacinto, Hughes, Cafferty, & Vallejo, 1991). Patients with neoplasm metastasis in the spine experience the disease as being very painful (Abdi et al., 2005; Cole & Patchell, 2008; Fisher et al., 1997; Struthers et al., 1998). The use of effective treatment and management of patients with bone metastasis has made it possible for the patients to survive for longer periods (Fisher et al., 1997). During an MRI scan, the patient has to be placed with the part of the body to be examined in the center of a tunnel that is situated in a large magnet. The patient has to lie still during the examination, which usually lasts between 20 and 90 min. If the patient moves, the quality of the images will decrease or will become unusable. In the process of the image acquisition, a hammering noise is produced by the MRI scanner (Lukins, Davan, & Drummond, 1997; Quirk, Letendre, Ciottone, & Lingley, 1989; Thorpe, Salkovskis, & Dittner, 2008; Westbrook, Roth, & Talbot, 2005).

Studies have shown that the MRI scans are often experienced as frightening and claustrophobia, and anxiety are experienced by 25% to 37% of the patients who undergo an MRI scan (Blanchard et al., 1997; Katz et al., 1994; McIsaac et al., 1998). The feeling of claustrophobia can be experienced although the patient is not claustrophobic in other situations and is thus unexpected. It is also reported that patients have developed phobia or intolerance to enclosed spaces after an MRI examination (Avrahami, 1990; Fishbain et al., 1988; Lukins et al., 1997; McIsaac et al., 1998).

An MRI examination is a multifaceted phenomenon that involves several aspects that are to be considered. These are the length of the examination, enclosed space, hammering noise, and uncomfortable temperature (too hot or too cold) inside the bore of the magnet. It has also been shown that patients may experience anxiety because of the fear of pain, fear of the unknown, and the apprehension about what the test might reveal (Katz et al., 1994; Quirk et al., 1989). Studies have also shown that patients undergoing an MRI examination feel as though they were "buried alive," "abandoned," "disorientated," or feel like "being in another world" (Grey, Price, & Mathews, 2000; Törnqvist, Månsson, Larsson, & Hallström, 2006). Although there are several studies about patients' experiences in connection with an MRI examination, no

study to our knowledge has been performed specifically about patients suffering from neoplasm metastasis in the spine who undergo an MRI examination. Knowledge about the experiences of this group of patients is needed to ensure high-quality nursing care.

AIM

The aim of the study was to explore the experience of an MRI examination by patients with neoplasm metastasis in the spine.

METHODS

The study has a qualitative design based on in-depth interviews with patients who have suspected or diagnosed neoplasm metastasis in the spine. These patients were to undergo an MRI examination of the spine to determine and diagnose its condition.

Setting

All MRI scans were performed at a hospital in southeastern Sweden. The MRI scanner used was a GE, Signa HDxt, 1.5 T (GE Healthcare, Wauwatosa, WI). The bore was 180 cm long and 60 cm wide. There was in-bore lighting and ventilation system with the purpose of reducing the experience of being in an enclosed space. The scanner also had a built-in two-way intercom speaker with microphones and volume controls that made communication possible between the control room and the scanner. The patients were also able to listen to music through the headphones. The scanner had a quick docking system for the patient table, which provided the possibility for rapid removal of the patient from the scanner in case of emergencies.

Participants

Twelve participants who underwent an MRI examination were interviewed about their experience of going through the MRI scan. The selection of the participants occurred during a 6-month period in 2013. The inclusion criteria were that the participants should be able to speak and understand Swedish, be at least 18 years old, have cancer with suspected or diagnosed neoplasm metastasis in the spine, and be scheduled for an MRI examination of the spine to determine and diagnose its condition. No upper age limit was set. The participants were consecutively selected from the list of patients waiting for the MRI examination. Fourteen patients were invited to participate in the study, and 12 accepted the study. The participants consisted of six men and six women, aged 48 to 80 years with a mean age of 66 years. Five of them had no previous experience of MRI examination.

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