Quality of life, activities and fatigue in patients diagnosed with benign or low-grade malignant bone and soft tissue tumors

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Introduction: Since survival rates of cancer have increased, more attention is paid to the quality of life after the initial treatment. One of the important factors influencing the quality of life after cancer treatment is fatigue. This does not only affect patients treated for cancer. Studies have showed increased fatigue among patients treated for benign bone tumors two years after treatment1,2. The goal of the present study is to investigate the role of activities on fatigue and quality of life among patients diagnosed with benign and low-grade malignant bone and soft tissue tumors before treatment of the tumor.

Materials and Methods: Patients with benign and low-grade malignant bone and soft tissue tumors were asked to participate in the study. Patients receiving (neo)adjuvant chemotherapy were excluded from the study. Other exclusion criteria were earlier treatment for cancer, severe co-morbidity causing fatigue, and age under 18 years. An actometer, measuring the level of activity during the day, was worn at the ankle for two weeks by 27 of the participants. Level of activity, fatigue, pain and quality of life were assessed using questionnaires. The Checklist Individual Strength (CIS) was used to measure four aspects of fatigue (fatigue severity, concentration, motivation, and physical activity). High scores on the fatigue subscale indicate a high level of fatigue. The RAND-36 physical functioning consists of ten items on a 3-point Likert scale and scores range from 0 to 100. The quality of life questionnaire (C30) of the EORTC covers five functional scales (physical-, role-, cognitive-, emotional-, and social functioning) and a general health status scale reflecting the multidimensionality of the quality of life construct. Higher scores represent a higher functioning and quality of life (range 0 – 100). The McGill Pain Questionnaire (MPQ) was used for pain scores. All measurements were done before the surgery to treat the tumor.

Results: Fifty patients were included in the study; 26 men and 24 women. The average age of the patients was 42 years (range 19 – 67 years). They were diagnosed with 33 benign and 17 low-grade malignant tumours. Treatment consisted of surgery only.

The results from the actometers showed a decreased level of activity with a mean score of 59 (range 21 – 88) in the tumor group, compared to a score of 90 in a healthy control group.

The mean CIS-fatigue score at baseline was 30. This is remarkably higher than the average score in a healthy population (score 17). A score of 27 – 35 points, indicating heightened experience of fatigue, was seen in 11 patients (22%). Severe fatigue, reflected by a score ≥ 35, was seen in 19 patients (38%). The RAND-36 physical functioning score shows a mean of 58 points (SD 25,9), whereas the score in a healthy population is 82.

The score for the EORTC-quality of life was 70 and EORTC-physical functioning 75 on a scale of 0 – 100. The mean score of the MPQ was 8 (range 0 – 17).

A significant correlation was found between the CIS-fatigue and the quality of life (Pearson r = .579; p = .000), between the MPQ and the quality of life (Pearson r = .379; p = .007), and between the actometer scores and the quality of life (Pearson r = .442; r = .021). No significant correlation was found between CIS-fatigue and actometer scores (Pearson r = -.148; p = .462) or between MPQ and actometer scores (Pearson r = -.057; p = .777).

Discussion: In this study we see that patients who have recently been diagnosed with a benign or low-grade malignant bone or soft tissue tumor, and are waiting for the surgical treatment of the tumor, show increased fatigue compared to healthy controls. Severe fatigue is seen in 38% of the patients and is higher in patients with higher pain scores. The quality of life is negatively influenced by fatigue, higher pain scores and reduced activities. No significant relation between level of activity and fatigue or pain was found. Therefore we believe the emotional stress of the diagnosis and pain are the main causes of severe fatigue. The impaired activities due to extremity tumours affect the quality of life of patients.

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