

## EVALUATION OF THE CHANGES OF FATIGUE AND HEMATOLOGY INDEX LEVEL IN HEPATOCELLULAR CANCER PATIENTS RECEIVING STEREOTACTIC RADIATION THERAPY

Ya-Li Hsiao<sup>1</sup>, Yeur-Hur Lai<sup>2</sup>, Jeng-Fong Chiou<sup>3</sup>, Jo-Ting Tsai<sup>5</sup>, Chi-Yuan Yeh<sup>6</sup>,  
Tao-Sang Chung<sup>5</sup>, Chung-Yu Kao<sup>3</sup>, Meei-Liang Lin<sup>4</sup>

<sup>1</sup>Department of Nursing, Fooyin University, Taiwan

<sup>2</sup>Graduate Institute of Nursing, Taipei Medical University, Taiwan

<sup>3</sup>Department of Radiation Oncology, <sup>4</sup>Department of Nursing, Taipei Medical University Hospital, Taiwan

<sup>5</sup>Department of Radiation Oncology, Wanfang Hospital, Taiwan

<sup>6</sup>Department of Radiation Oncology, Tungs' Taichung Metro Harbor Hospital, Taiwan

**Purpose :** Hepatocellular carcinoma is a common malignancy in Taiwan. Recently, stereotactic radiotherapy is one of the new treatment modality for this disease. However, there still do not have study focused on the changes of fatigue level in patients receiving this treatment. The purpose of this study was to evaluate the changes of fatigue and hematology index in hepatocellular cancer patients receiving stereotactic radiotherapy.

**Materials and methods :** Prospective longitudinal research design was developed to examine the changes of fatigue and hematology index during and after stereotactic radiotherapy. Data were collected from December 2001 to May 2002. A total of 45 eligible subjects were recruited from two teaching hospitals in Taipei. Five patients were excluded due to expire or dropout from this study. Forty eligible patients finished the seven weeks study. Fatigues index were evaluated by questionnaire of Fatigue Symptom Inventory (FSI) which measured the fatigue intensity, fatigue duration and fatigue interference weekly. Hb, Ht, WBC and Platelet were measured weekly for 7 weeks. Besides, AST, ALT and albumin blood index were measured one week before radiation therapy and at week 2, week 4 and week 6 during treatment. Data were analyzed by SPSS computer program.

**Results :** All the subjects in this study had mild fatigue in the beginning of the treatment. Their fatigue intensity, fatigue duration and fatigue interference were significantly increased from pre-treatment to the 5<sup>th</sup> week except the 3<sup>rd</sup> week. The peak level of fatigue occurred in the 5<sup>th</sup> week and it decreased since the 6<sup>th</sup> week ( $p < 0.01$ ). Blood Hb, Ht, WBC and platelet level descended gradually to abnormal along with treatment ( $p < 0.05$ ), but the blood AST and ALT level rise along with the treatment. Though the blood albumin level decreased, it was in normal range. Nonsignificant correlations between fatigue level and laboratory data were found.

**Conclusion :** Fatigue was a commonly experienced problem in hepatocellular cancer patients receiving stereotactic radiotherapy, but the fatigue scores were at minimal level. Part of the hematology study data change during treatment. The results of this study can provide the clinical personnel information about the change of fatigue level in hepatocellular cancer patients receiving stereotactic radiotherapy.

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Key words: Stereotactic radiotherapy, Fatigue, Laboratory data