

# Depression, The Severity of Bone Metastasis, and the Number of Radiotherapy Episodes: Are They Interlinked?

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Dear Editor,

We read with great interest the recently published article titled "Evaluation of depression in patients with bone metastasis before and after radiotherapy" by Karaca et al. (1). The authors have concluded that cancer patients who go under radiotherapy (RT) treatment become more depressed than before, and their depression score has a positive relationship with their bone metastasis. Although we applaud the researchers' investigation of depression among the study patients, we wish to highlight some critical points. The papers' method section is missing some key details essential for readers. First, the authors have not specified the sampling method; did they include all consecutive patients under RT for ten days or any randomization? Second, how much was the response rate? The authors have indicated that the data is based on 100 patients' responses who completed both tests. How many patients declined to complete the second test? If the proportion is high, couldn't it affect the reliability of the presented data? The third point is the role of psychiatric support on the results of this study. The authors mention that the patients have gone under psychiatric treatment. It is essential to note that there is no consensus about this psychiatric treatment's effect on the study's outcome. We believe that this is one of the most important

confounding factors in this study. It is necessary to provide clear answers to these questions to clear up ambiguities and make the results more transparent: How many patients were under psychiatric treatment? How was the compliance with psychiatric medication? What exact treatment or support did they provide for their patients? Although the authors report no association was found between Beck scores and age for all groups, it is not obvious that the mentioned P-value ( $p=0.495$ ) is for Beck-0, Beck-1 or the changes in Beck scores. Also, a critical point about the accuracy of the data inquisition in this study is the so higher than expected mean beck scores of the studied population. We know that the patients were at the end stages of the disease, but previous studies show much lower mean Beck scores even rather than Beck-0 scores in cancer patients. Another study in Turkey shows a  $13 \pm 9.3$  (range 2–46) mean  $\pm$  SD beck score among breast cancer patients(2); however, the Karaca study indicates  $31.20 \pm 11.13$ , a much higher score. Is it only because of the severity of the patients' disease or the effect of confounding factors? We note that in this study, as the number of bone metastases increases, the depression score gets higher, too. Although it may be due to an increase in the disease's severity, it is notable that the severity is not necessarily related to the number of bone metastases. Bone metastasis is only a single

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condition with a noticeable wide range of clinical presentations and different prognoses (3, 4). We think it is the physician's role to educate patients well and let them know if they have more metastatic bone lesions, their disease prognosis is not necessarily less. This patient education may lead to a lower depression score and decrease depression and anxiety among patients.

The authors have mentioned that the depression score increases after the RT, but we think this finding's interpretation is not accurate in this study. We genuinely believe that a comparison with a control group with no RT treatment could strength the reported results' reliability. Besides, the primary level of depression may also affect the final score; a recent study on patients under radiotherapy for painful bone metastases shows a decrease in the overall level of psychological distress (PD) in those with a high level of PD at baseline (5).

Importantly, understanding that cancer patients with metastatic bone lesions need psychological attention is valuable, but to achieve a more reliable and accurate conclusion, noting the mentioned points for further assessments is inevitable.

We declare no competing interests.

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