

How Does Radiotherapy Act as Palliative Treatment of Bone Pain Caused by Cancer?

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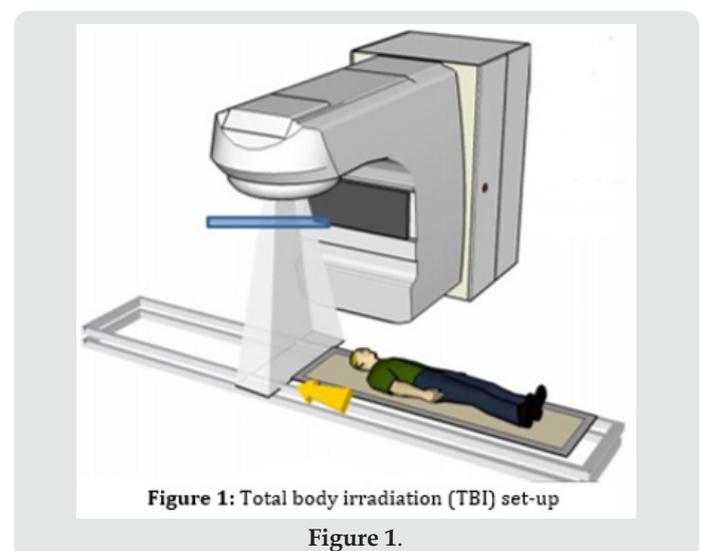
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Opinion

The fact remains that, despite significant progress has been made in the treatment of cancer, many patients with advanced cancer still suffer from pain. Cancer-induced bone pain (CIBP) is the most common type of cancer pain, which breast, prostate, and lung cancer are associated with high skeletal metastases that caused to patient's bone pain. As matter of fact, two-thirds of patients with bone metastases suffer from fractures pain, not all bone lesions are painful. In this connection, mechanisms that caused to pain in cancer patients include periosteal irritation nerve entrapment, muscle spasm, and secretion of chemical mediators of osteolysis such as prostaglandines and cytokines which activate concomitantly both osteoclasts and nociceptors [1]. It would be better to say that, pain management is vital aspect of cancer treatment which moderate by pharmaceutical and radiation-therapy methods. Physicians are also more likely to use oral medications or opioids such as morphine-type analgesic to pain suppressing [2]. What is more, radiation-oncologists believe that radiotherapy play a palliative role in cancer pain management. Whereas, they are concern about opioid side effects, by and large radiation-therapy is the gold-standard treatment for CIBP, which main purpose is relieving pain and thereby improve mobility and function [2]. Small doses of radiation such as 4 Gy achieve pain relief in many patients (more than 50%) at 4 weeks after the treatment [3]. Palliative radiotherapy to pain management can be done by single fraction and fractionated treatment methods. According to studies, the results of these two methods are close to each other, also, there was no relationship between the treatment response and the number of fractions used [4]. Low-dose total body irradiation (LTBI) as one of the fractionated treatment methods, is used to relieve pain [5]. According to the Figure 1, in LTBI method, patients without any special treatment planning exposed to ionizing radiation. LTBI is an effective palliative treatment for NHL patients and are not eligible for bone marrow/stem cell transplantation [5]. Broadly speaking,

life quality of cancer survivors can depend on many factors such as treatment methods, physiology and posttraumatic stress disorder (PTST). But what matters is patient follow up after cancer treatment and the use of adjuvant techniques, such as LTBI for patients with bone pain. This may prompt researchers to select best methods to improve patient life quality that have bone pain caused by cancer.



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