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PREFACE

Cancer and bone: friendly and hostile relationship

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On behalf of the Journal of Bone and Mineral Metabolism (JBMM), we are proud of announcing that the Special Edition "Cancer and Bone" is now published in the May issue of the journal. There are six clinical and eight basic research articles that are written by each of the world-leading experts in the field of cancer and bone. We are confident that each article presents updated, insightful, and educative scientific information related to cancer bone metastasis, attracting the interest of many scientists from bone and cancer research fields.

Bone is a storehouse of cancer-stimulating growth factors, cytokines, and chemokines released into the bone marrow cavity due to physiological bone remodeling. This unique and dynamic environment makes bone a preferential target site for the dissemination of cancers such as breast, prostate, and lung cancer, and multiple myeloma. Hence, the establishment of a friendly relationship with the bone microenvironment is a lifeline for cancer cells to arrest and ultimately settle down in bone. Although the precise cellular and molecular mechanism underlying the friendly interactions needs to be elucidated, it should be noted that the pharmacological treatments for cancer patients with bone metastasis that are designed based on this concept have been beneficial in reducing life-limiting skeletal-related events (SRE) and bone pain and promoting the development of circulating biochemical markers for bone metastasis, while these pharmacological agents cause cancer treatment-induced bone loss (CTIBL) as an adverse effect. Meanwhile, despite continuous immune cell attacks, cancer cells can escape the immune surveillance system and survive the hostile environment to establish bone metastasis. Accordingly, it is reasonable to propose that immunotherapy appears a promising alternative for the treatment of bone metastasis that is currently difficult to cure. Of interest, accumulating results demonstrated that nerves innervating bone are one of the components of the bone microenvironment that crosstalk with metastatic cancer cells to regulate the cancer progression in bone. Furthermore, recent studies uncovered that cancer-secreted extracellular vesicles (EVs) containing tumor products and non-coding microRNAs play a role in the pathophysiology of bone metastasis by regulating the crosstalk between cancer cells and the bone microenvironment. It is expected that these recent findings provide new therapeutic approaches for bone metastasis.

The topics mentioned above are presented and discussed in this Special Edition. We hope that readers from not only the bone but also other research fields get interested in this edition, learn some new ideas, and consequently participate in the study of bone metastasis. Finally, we are deeply grateful to all the authors for their time, efforts, and contributions to accomplishing the publication of the Special Edition.

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