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Editorial





Editorial introduction to the special issue:

Welcome to this special issue of the Journal of Bone Oncology, bringing together new insights into how tumour-microenvironment interactions drive bone metastasis. We first published a special issue focused on the microenvironment in bone metastasis in 2016 and are excited to now share the new advances and discoveries that have expanded our understanding of tumour-bone crosstalk over the subsequent eight years. There is now a greater appreciation of the contribution of different cell types including adipocytes and macrophages [1,2], as well as an increased understanding of the multiple roles of classical bone cells and niches, including the dormant niche [3–6]. Cytokines remain an important driver of metastasis and biological target [7]. In line with the updated Hallmarks of Cancer [8], there is an emerging recognition of the importance of senescence, metabolism, phenotypic plasticity, microbiomes and epigenetic regulation in bone metastasis [1,9–12].

We are sure you will find the articles that make up this issue of great interest, and that like us you will read them and discover new angles to this exciting and ever-changing area of research. Thanks to the cooperation of many experts in their respective fields, the issue covers a wide range of topics, specifically focused on preclinical and translational research. We also acknowledge and appreciate the inclusion of early career researchers as authors, bringing a new perspective to the articles. We are very grateful that the authors have taken the time to contribute to this collection of mini-reviews, which we hope will serve as a quick guide to the latest developments for those already working in the field, as well as an introduction to the field for those who are new to it.

Despite our best efforts to recruit contributions covering all aspects of the microenvironment, there are a number of important components not included in this issue, for these we suggest a few key publications for further reading. Amongst these (and there could be more) are immune-oncology [13], osteoclasts [14] and cancer-bone pain [15]. I encourage experts in these areas to submit a mini-review covering these and other missing topics to the Journal of Bone Oncology, as we are keen to complete the picture of the important role of the microenvironment in bone metastasis with further articles. Original articles focussing on any of the components covered in this issue are also welcome.

Declaration of competing interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

References

- H. Fairfield, et al., Adipocytes and metabolism: Contributions to multiple myeloma, J Bone Oncol 46 (2024) 100609.
- [2] J. Guo, R.Y. Ma, B.Z. Qian, Macrophage heterogeneity in bone metastasis, J Bone Oncol 45 (2024) 100598.
- [3] J. Zarrer, H. Taipaleenmaki, The osteoblast in regulation of tumor cell dormancy and bone metastasis, J Bone Oncol 45 (2024) 100597.
- [4] S.W. Verbruggen, Role of the osteocyte in bone metastasis The importance of networking, J Bone Oncol 44 (2024) 100526.
- [5] J.T. Smith, R.C. Chai, Bone niches in the regulation of tumour cell dormancy, J Bone Oncol 47 (2024) 100621.
- [6] K.J. Nyman, J.S. Frieling, C.C. Lynch, Emerging roles for stromal cells in bone metastasis, J Bone Oncol 47 (2024) 100610.
- metastasis, J Bone Oncol 47 (2024) 100610.

 [7] J. Zhou, P.D. Ottewell, The role of IL-1B in breast cancer bone metastasis, J Bone Oncol 46 (2024) 100608.
- [8] D. Hanahan, Hallmarks of Cancer: New Dimensions, Cancer Discov 12 (1) (2022)
- [9] A.J. Guilatco, M.V. Shah, M.M. Weivoda, Senescence in the bone marrow microenvironment: A driver in development of therapy-related myeloid neoplasms, J Bone Oncol 47 (2024) 100620.
- [10] Y. Han, Y. Kang, Phenotypic plasticity Implications for tumours in bone, J Bone Oncol 45 (2024) 100592.
- [11] K.F. Contino, K.L. Cook, Y. Shiozawa, Bones and guts Why the microbiome matters, J Bone Oncol 44 (2024) 100523.
- [12] M.B. Searcy, R.W. Johnson, Epigenetic control of the vicious cycle, J Bone Oncol 44 (2024) 100524.
- [13] F.E. Mercier, C. Ragu, D.T. Scadden, The bone marrow at the crossroads of blood and immunity, Nat Rev Immunol 12 (1) (2011) 49–60.
- [14] K.H. Park-Min, et al., New Horizons: Translational Aspects of Osteomorphs, J Clin Endocrinol Metab 109 (5) (2024) e1373–e1378.
- [15] M. Diaz-delCastillo, et al., Multiple myeloma-A painful disease of the bone marrow, Semin Cell Dev Biol 112 (2021) 49–58.

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