Introduction

Matthew R. Allen

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Years ago when I lived in Texas people would often ask if I wanted a ‘Coke’ to which I quickly learned to respond, ‘Sure, I’ll take a Pepsi’. You see, in Texas (and other parts of the southern United States), the term ‘Coke’ is routinely used to refer to soft drinks in general, not specifically the Coca-Cola brand of products.

In much the same way, the term osteonecrosis has become a generalized term for a number of conditions. While it is not inappropriate, as the bone being described in these conditions is for the most part dead, the use of such a generalized term does not convey that in fact there are a number of different pathophysiologies that can result in osteonecrosis. This has led to some degree of confusion for those not directly working in the field as many conditions are often assumed to have the same etiology and treatment strategies when in fact they can vary considerably. Confusion in the field has grown further in recent years because bisphosphonates, pharmaceutical agents used to reduce osteoclast activity and bone loss, have been shown to be effective as a treatment for osteonecrosis of the hip yet these same agents have been associated with the development of osteonecrosis of the jaw. Two types of osteonecrosis – one treated by a drug and the other with the same drug being associated with its development.

This issue of Clinical Reviews in Bone and Mineral Metabolism aims to provide its readers clarity on the topic of osteonecrosis. Our goal is that the series of seven review articles can serve as a starting point to inform both

clinicians and researchers who are interested in the topic. To achieve this goal we have brought together leaders in the field of osteonecrosis, both clinicians and basic researchers. Drs. Harry Kim, Noelle Larson, Nicholas Fletcher, Naomi Winick and Young-Jo Kim summarize the field of **pediatric osteonecrosis** while Drs. Christopher Costa, Aaron Johnson, Michael Mont and Lynne Jones review **osteonecrosis in adults**. Individual articles are devoted to the topics of **osteoradionecrosis** (Drs. Jose Bagan, Crispian Scully, Enrique Zapater, Jorge Basterra, and Leticia Bagan), **ionizing radiation effects on bone** (Drs Jeffrey Willey, Shane Lloyd, Gregory Nelson, and Ted Bateman), and **osteonecrosis of the jaw associated with anti-remodeling treatments** (Drs. Jill Kramer and John Fantasia). **Methods of imaging osteonecrosis of the hip using MRI** is the focus of a review by Drs. David Marker, Michael Mont, Amit Jain, and John Carrino. The final article of the issue, by Dr. Lynne Jones and myself, reviews the variety of **animal models** that are used to study osteonecrosis.

On behalf of Dr. Angelo Licata, the editor-in-chief of CRBMM, and the authors of the reviews, I hope you enjoy the articles compiled within this special issue and that it provides clarity to the broad area of osteonecrosis. Furthermore, I hope it points out where gaps in knowledge exist and stimulates interest and research in the years ahead.

M. R. Allen (✉)
Department of Anatomy & Cell Biology, Indiana University
School of Medicine, Indianapolis, IN, USA
e-mail: matallen@iupui.edu