

Special Issue on Osteoarthritis: Risk Factors and Treatment Strategies

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Global burden of osteoarthritis (OA) is high.¹ While clinical, structural and molecular features have been well-described, the underlying pathophysiologic mechanisms are still elusive, which pose a barrier to disease-modifying drug development in OA. Many risk factors for OA have been identified, and may provide clues to the underlying mechanisms but what makes it challenging is the heterogeneity of OA as a disease. Therefore in collaboration with European Journal of Rheumatology, this special issue on OA was planned to compile insightful review articles on risk and life style factors for OA, with emphasis on mechanistic and therapeutic implications as well as review articles on OA treatments to provide the readership with a comprehensive yet concise summary of OA management strategies, as outlined below.

Advanced age is a major risk factor for OA. In their review of literature, Surmachevska et al describe evidence implicating one of the aging mechanisms i.e. cellular senescence and senescence-associated secretory phenotype (SASP) factors in OA pathogenesis.² The authors also discuss senolytic and senomorphic agents as potential therapies for OA which may be paradigm shifting.² Similarly, since women are at greater risk for OA compared to men, the review by Nguyen et al on sex-differences explores the role of estrogen, estrogen deficiency and estrogen as a therapeutic agent for OA.³

Chondrocalcinosis often co-exists with radiographic OA but whether there is an association or just co-existence of the two conditions is often queried. To that end, Guo et al summarize the evidence for the association of chondrocalcinosis and OA in a uptodate review of the literature and potential treatments.⁴

Lifestyle factors in relation to OA, such as diet, exercise and physical activity level, are of interest to providers and patients. Physical activity is often encouraged for OA but is there a physical activity level that is detrimental to joint health? Review by Voinier et al provides guidance on safe activity based on literature review.⁵ Diet is also an important lifestyle factor that patients with or at risk for OA often inquire about. The review by Zhaoli Dai delves into the impact of diet on OA, independently and through body weight, inflammation and microbiome.⁶

This special issue also includes three manuscript on therapies for OA. The review by Ilana Usiskin summarizes the evidence on surgical options,⁷ review by Misra and Felson summarizes non-surgical options for hip and knee OA and systematic review by Mi et al focuses on treatment for hand OA.⁸

I hope the clinicians and researchers alike will find the review articles in this special issue on the important topics pertaining to OA very useful.

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