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Bone Marrow Edema – A team effort

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I would like to congratulate the authors on their current concept review on the etiology and treatment strategies for bone marrow edema (BME) (1). They highlight that BME is a nonspecific but often indicative finding for an underlying pathological condition. The authors differentiate between primary BME, i.e. BME without an obvious cause, and secondary BME. With regards to secondary BME, they suggest a classification comprising of 8 categories, all associated in a broader context to the field of orthopedics. Finally, the authors illustrate three different treatment strategies for BME, i.e. physical modalities, pharmacological options, and surgery.

It cannot be stressed enough, that BME per se is no more than a descriptive term for a common MRI finding. But it is most often indicative for an underlying condition. The terms primary BME or BME syndrome are reserved for BME in which an underlying pathology cannot be identified. We must keep in mind, that the underlying pathologies of BME, i.e. the reasons for secondary BME, are not limited to the broader field of orthopedics. Numerous different diseases covering almost all medical specialties have been shown to present with a BME. One of which, as mentioned by the authors, are primary inflammatory, such as spondylitis, sacroiliitis, inflammatory enthesitis, inflammatory arthritis, or chronic non-bacterial osteomyelitis. Still their correct diagnosis is not always trivial and should be handled by a rheumatologist. Next, there is the seeming endless field of pathologies causing secondary osteoporosis, which, next to primary osteoporosis, often also presents with BME. Underlying conditions are, amongst others, osteomalacia, adult hypophosphatasia, diabetes mellitus, hyperthyreosis, primary hyperparathyroidism, hypercortisolism, indolent systemic mastocytosis, and multiple myeloma. Their differentiation is based on an extended laboratory work-up and bone mineral density measurement. The interpretation of these must again be done by a specialist. Finally, there is a broad range of musculoskeletal conditions that might necessitate additional imaging and interpretation by a subspecialized orthopedic surgeon (2).

Although orthopedic surgeons have been shown to be “as strong as an ox and almost twice as clever” (3) the correct diagnosis of the underlying pathology for a BME is not a one man show. But it rather

necessitates an interdisciplinary approach, possibly a broad extension of the diagnostics, and should follow a well-defined diagnostic algorithm (2). The correct identification of the causative pathology for a BME is of uppermost importance, as the primary treatment approach should tackle the underlying pathology. The physical modalities and pharmacological options mentioned in the manuscript can aid in the initial painful episode and help to reduce or resolve the MRI findings of an BME, but they do not treat the actual pathology causing the BME. But only when the underlying pathology is addressed, our patients will be saved from the vicious circle of recurrent BME.

I again would like to congratulate the authors for their extended, orthopedic focused, current concept review on the etiology and treatment strategies for BME (1). The correct diagnosis of the underlying pathology of a BME must be appraised as a team effort.

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References

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