

Peer Review

Review of: "Kienböck's Disease May Be Due to a Wrist-Joint Tamponade"

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This article reflects a personal opinion regarding the etiology of Kienböck's disease and is primarily theoretical in nature.

Kienböck's disease has been a topic of debate within the hand surgery community for many years and, by all indications, will continue to be discussed for many more.

Drawing a parallel between bone necrosis and compartment syndrome and considering it as an "intraosseous compartment syndrome" is an appealing idea. Osteonecrosis, whether primary or secondary, progresses with regional circulatory disturbances and pressure changes. It remains a subject of debate whether these pressure changes trigger osteonecrosis primarily, or whether the pressure changes are secondary—for example, due to subchondral microfractures as observed in ulnar variance (-). Distal radius fractures are common injuries. These fractures cause bleeding and increased pressure in the wrist joint. Despite their frequency, it is still unclear why Kienböck's disease and lunate osteonecrosis do not occur with the same prevalence in these patients. Similarly, pressure elevation can occur within the joint during wrist arthroscopy. Yet, despite the widespread use of wrist arthroscopy, reports of lunate avascular necrosis remain relatively rare, which is intriguing. If the theory of intra-articular pressure increase were valid, one would expect such pressure to also affect bones like the scaphoid or capitate, leading to their osteonecrosis—but this is not commonly observed.

In summary, although it is certain that Kienböck's disease involves alterations in local bone perfusion and hydrostatic pressure, I would like to emphasize that ulnar variance (-) and other individual factors must also be present for the disease to manifest.

Declarations

Potential competing interests: No potential competing interests to declare.