Lunate Fragments in Unstable Scaphoid Nonunion Wrists: Affect or Effect?

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J Wrist Surg 2016;5:327–328.

Recently, Herzberg¹ proposed a modified classification of perilunate injuries, including transscaphoid fractures with associated chip fractures of the dorsal or volar lip of the lunate. These complex, high-energy injuries are notorious for

their high risk for progressive carpal instability. An associated lunate fragment, however, may also be a consequence of carpal instability, secondary to the scaphoid fracture. In this letter, we would like to illustrate this difference in

Fig. 1 (A) Sagittal computed tomography slice of the lunate and scaphoid, and coronal slice of a 15-year-old adolescent boy with a scaphoid waist nonunion and a chip fracture of the volar lip of the lunate (white arrows) (time from injury, 4 years of age). (B, C) Sagittal computed tomography slice of the lunate and scaphoid of two men, both 25-years-old, with a scaphoid waist nonunion and chip fracture of the dorsal lip of the lunate (black arrows) (time from injury, 2.5 - 4 years of age). (D, E) Sagittal computed tomography slice of the lunate and scaphoid of two men, 49 and a 50-years old, with a scaphoid waist nonunion and loose bodies near the dorsal lip of the lunate (white arrows), which were considered a manifestation of secondary synovial chondromatosis (time from injury, >2.5 years of age). In all cases, the scaphoid nonunion was associated with a so-called humpback deformity indicating instability.

received

June 9, 2016

accepted after revision

June 10, 2016

published online

July 25, 2016

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Tel: +1(212) 584-4662.

DOI <http://dx.doi.org/10.1055/s-0036-1586128>.
ISSN 2163-3916.

etiology by reporting on five wrists treated for unstable scaphoid nonunions with associated lunate fragments.

The first three cases concern male patients with transscaphoid perilunate injuries including chip fractures of the lunate lip (►**Fig. 1A–C**), which may be the result of a shearing or avulsion mechanism during impact.² Only one patient sought immediate medical attention. He was initially treated with immobilization after plain radiographs were interpreted as showing a simple scaphoid fracture. The other two patients sought medical attention after 3 to 4 years after injury, thus having, by definition, a scaphoid nonunion.

The two other cases also concern male patients with established scaphoid nonunion and loose fragments near the lunate lip. These fragments showed a smooth and well-corticated margin (►**Fig. 1D, E**), with a size and location similar to that of the aforementioned dorsal chip fractures. We consider these fragments suggestive for secondary synovial chondromatosis—a benign metaplastic proliferative disorder causing multiple intraarticular cartilaginous bodies. These bodies may undergo secondary calcification and ossification.³ It is associated with joint abnormalities such as instability and is usually observed in the knee or hip.

An associated lunate fragment is indicative for carpal instability, either as cause or consequence, requiring surgery. As illustrated by our first three cases, perilunate injuries often go unrecognized, despite their severity, leading to delayed

diagnosis and treatment.⁴ For prompt recognition, we therefore recommend obtaining an additional computed tomography scan.

Conflict of Interest

None.

Funding

P. W. B. received a PhD grant (2014) from the Academic Medical Center (Amsterdam, Netherlands) supporting this research.

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