Significance of “Erosion-like Lesions” in “Healthy Controls”

To the Editor:

Olech and colleagues note that erosions are commonly found in metacarpal phalangeal and wrist joints of “healthy subjects”¹ and “healthy employees”². Olech, *et al*² report observation of “erosion-like lesions” on magnetic resonance imaging (MRI) of 26 of 40 (65%) healthy employees of the Oklahoma Medical Research Foundation (Oklahoma City, OK, USA). This contrasts with “at least one erosion in the hands or wrists” of 90% of individuals with rheumatoid arthritis. The latter correlates nicely with macroscopic observations of defleshed bones, where the frequency of erosions correlates with the frequency of synovitis^{3,4,5,6,7,8,9,10,11}. However, the frequency of MRI-diagnosed erosions in “healthy subjects” far exceeds the < 1% seen in human populations^{12,13} as well as the rarity of isolated erosion detection in the zoologic record^{14,15,16,17,18}.

This contrasts with recognition of bone edema in 7 subjects (17.5%) and the damage shown in Olech, *et al*, Figure 1, which clearly document pathology in a wrist and metacarpal phalangeal joint. The illustrated MRI reveals substantial damage, with no discernible synovial proliferation. This is similar to changes observed in sickle cell anemia¹⁹, which were originally thought erosive in derivation. It was only when the defleshed skeleton of an afflicted individual was examined that the etiology of “erosions” in sickle cell anemia was actually related to avascular necrosis²⁰.

It is unclear what the MRI-detected abnormalities represent in “healthy employees.” While plain radiograph and computed tomography images may clarify the underlying disease, more in-depth interviewing and physical examinations seem warranted in the subgroup with such “lesions.” Are these the result of long-forgotten events or similar to spondylosis deformans²¹, anomalies without clinical significance? The latter is unlikely for the lesions illustrated in Olech, *et al*, Figure 1. The authors² most appropriately label these “erosion-like lesions.” It will be intriguing to learn of their natural history.

BRUCE M. ROTHSCHILD, MD, Biodiversity Institute, University of Kansas, Dyche Hall, Lawrence, Kansas 66045, USA.
E-mail: bmr@ku.edu

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