## A Rose by Any Other Name: Classified Accelerated Erosive Osteoarthritis or Calcium Pyrophosphate Deposition Disease, a Clarion for Aggressive Intervention

To the Editor:

The analysis of accelerated osteoarthritis (OA) by Davis,  $et~al^1$  noted the predominantly interphalangeal joint distribution of associated erosions and suggested a likely inflammatory derivation of the process. That description, however, is also applicable to a disorder long recognized as inflammatory in character: calcium pyrophosphate deposition disease (CPPD)<sup>2</sup>.

Several studies document the development of destructive arthropathy in CPPD<sup>3,4,5</sup> and the association of distal and proximal interphalangeal joint erosions with other manifestations of CPPD<sup>6,7</sup>. Such correlation does not assure causality, but does direct consideration of therapeutic intervention. Hydroxychloroquine has not proven effective in treatment of OA<sup>8</sup>, but has documented efficacy in CPPD9, especially protecting the small joints of the hand. What has been referred to as erosions of those joints has a unique appearance. Rather than the sharply defined erosions characteristic of rheumatoid arthritis and spondyloarthropathy, high magnification views of articular surfaces reveal that the erosions of CPPD have smudged edges suggesting a crumbling rather than an "excised" derivation 10. Davis, et al have expanded the spectrum of what has been referred to as erosive OA, suggesting that it represents a unique phenotype<sup>1</sup>. The destructive phenomenon to which they refer, independent of its labeling/classification as erosive OA or as CPPD, appears significantly more responsive to medical intervention than does nonerosive, nondestructive OA. Thus, its recognition should stimulate more aggressive intervention than that limited to the nonsteroidal antiinflammatory drugs that have been standard treatment for OA.

BRUCE M. ROTHSCHILD<sup>®</sup>, MD, Indiana University School of Medicine, Muncie, Indiana, USA. Address correspondence to Dr. B.M. Rothschild, 2401 W. University Ave., Muncie, Indiana 47303, USA. E-mail: spondylair@gmail.com

## REFERENCES

- Davis JE, Schaefer LF, McAlindon TE, Eaton CB, Roberts MB, Haugen IK, et al. Characteristics of accelerated hand osteoarthritis: data from the osteoarthritis initiative. J Rheumatol 2019;46:422-8.
- Rothschild BM, Woods RJ, Rothschild C. Calcium pyrophosphate deposition disease: description in defleshed skeletons. Clin Exp Rheumatol 1992;10:557-64.
- Gerster JC, Vischer TL, Fallet GH. Destructive arthropathy in generalized osteoarthritis with articular chondrocalcinosis.
  J Rheumatol 1975;2:265-9.
- Richards AJ, Hamilton EB. Destructive arthropathy in chondrocalcinosis articularis. Ann Rheumatic Dis 1974;33:196-203.
- Villiaumey J, Larget-Piet B, Menza CD, Rotterdam M. [Symptomatic and evolutive characteristics of articular destruction noted in chondrocalcinosis]. [Article in French] Rev Rhum Mal Osteoartic 1975;42:263-73.
- Shah EN, Reddy N, Rothschild BM. Fractal analysis of acceleration signals from patients with CPPD, rheumatoid arthritis and spondyloarthropathy of the finger joint. Comput Methods Programs Biomed 2005;77:233-9.
- McCarthy DJ. Diagnostic mimicry in arthritis patterns of joint involvement associated with calcium pyrophosphate dehydrate crystal deposits. Bull Rheumatic Dis 1975;25:804-9.
- Lee W, Ruijgrok L, Boxma-de Klerk B, Kok MR, Kloppenburg M, Gerards A, et al. Efficacy of hydroxychloroquine in hand osteoarthritis: a randomized, double-blind, placebo-controlled trial. Arthritis Care Res 2018;70:1320-5.
- Rothschild BM. Prospective six month, double-blind trial of hydroxychloroquine treatment of CPPD. Comp Ther 1997; 23:327-31.
- Rothschild BM. Differential diagnostic perspectives provided by en face microscopic examination of articular surface defects. Clin Rheumatol 2018;31:831-6.

First Release June 1 2019; J Rheumatol 2019;46:7; doi:10.3899/jrheum.190464

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2019. All rights reserved.