



## Extirpation of the Mythology that Porotic Hyperostosis is Caused by Iron Deficiency Secondary to Dietary Shift to Maize

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### ABSTRACT

Diagnosing a shift to a maize-dominant diet, on the basis of recognition of high population frequencies of porotic hyperostosis, has unfortunately entered the "collective consciousness" of anthropology—because of the mythology that iron deficiency is a common cause of that phenomenon. Skull changes in patients with all forms (both primary and secondary) of iron deficiency are actually extremely rare (0.68%!). That frequency certainly does not support iron deficiency as the explanation for the high frequency of porotic hyperostosis noted (approximating 50%) in some populations. Isotopic analysis further reveals that C4 grasses (e.g., maize) actually did not become a significant part of North American human diets until the past 1000 years, long after notation of high frequency porotic hyperostosis. This further falsifies claims of earlier maize diets (predicated on frequency of porotic hyperostosis) and negates the perception that maize-induced iron deficiency is the cause of porotic hyperostosis. The latter speculation is not only contrary to medical evidence, but that misdirection gave false impressions of ancient populations/civilizations and compromised use of a valuable observation. That mythology must be extirpated from the "collective consciousness". Perhaps now attention can be appropriately directed to exploration of genetic hemolytic anemia, hemoglobinopathies and parasitic infestations which are known causes of porotic hyperostosis.

### KEYWORDS

Iron Deficiency; Porotic Hyperostosis; Cribra Orbitalia; Maize; Diet; Parasite; Hemolytic Anemia; Mythology

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