Can any phenol group containing drugs cause ochronosis?

Mandalapu Laasya, Sri Harsha Chalasani and M Ramesh
JSS College of Pharmacy, India

Background: Ochronosis is a dermatological condition characterized by bluish-black pigmentation of certain cartilages and homogentisic aciduria. Drugs containing phenol (salicylic acid) on prolonged use reduces homogentisic acid levels leading to improper tyrosine metabolism. However, there is limited information on the association of endogenous ochronosis caused by phenols containing drugs.

Aim: To study the association between the ochronosis and phenol ring containing drugs.

Introduction: In 1912, Beddard described the ochronosis, when a patient used phenol for leg ulcers. Although, endogenous ochronosis is an autosomal recessive disease while exogenous ochronosis can manifest due to use of phenol ring containing drugs, however, exogenous ochronosis may aggravate endogenous pathology. Further, ochronosis is often associated with other autoimmune diseases (such as arthropathies) and there is limited information on exogenous ochronosis caused by phenol ring containing drugs.

Method: A search of the terms, ochronosis and phenol ring containing drugs, inclusively was done in PubMed from the year 1980 to 2018. This search string has yielded 200 English articles, of which 10 articles were eligible for the proposed hypothesis.

Result: Only 5% of ochronosis patients are associated with phenol containing drug use. The long time gap between development of ochronosis and phenols used may attribute to weak causal relation. There are no defined incidences and no further studies have been conducted to conclude if exogenous ochronosis can be caused by usage of phenol ring containing drugs.

Conclusion: With the limited studies, eligible for the current study there is a positive relation between ochronosis and phenol containing drugs. However, the overlap of exogenous and endogenous ochronosis may be related to prolonged phenols usage, thus extensive clinical research should be conducted to understand the causal relationships.

m.laasya2610@gmail.com