Oxalosis in the Bone and Bone Marrow

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Introduction

Hyperoxaluria is characterized by supersaturation of calcium oxalate in the urine, and is strongly associated with nephrolithiasis and nephrocalcinosis. Oxalate is the salt form of oxalic acid and is a natural end product of glyoxylate metabolism. Oxalate does not appear to be needed for any human body process and normally more than 90% is excreted by the kidneys, with a small amount of excretion into the lower gut. Hyperoxaluria can result form excessive dietary intake of oxalates, overproduction of oxalates from the intestinal tract associated with intestinal diseases (enteric hyperoxaluria) and abnormalities in oxalate metabolism (primary hyperoxaluria)1. Long-standing and unattended hyperoxaluria can progressively impair renal functions, and ultimately lead to renal failure. This devastating phenomenon is characterized by oxalosis, a condition in which calcium oxalate crystals are deposited in the extrarenal organs. The common sites of oxalate deposition are the bones, bone marrow, blood vessels, central nervous system, peripheral nerves, retina, skin, and thyroid, etc2.