Descriptive Human Pathological Mineralogy

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Abstract

Crystallographic, petrographic, and X-ray powder diffraction analysis of approximately 15,000 samples showed that the most common mineral constituents of human pathological concretions are calcium oxalates (whewellite and weddellite), calcium phosphates (apatite, brushite, and whitlockite), and magnesium phosphates (struvite and newberyite). Less common are monetite, hannayite, calcite, aragonite, vaterite, halite, gypsum, and hexahydrite. Of the variables determining which minerals precipitate, the effects of different pH values on depositional conditions are most apparent, and are shown by occurrences and relationships among many of the minerals studied. A pH-sensitive series has been identified among magnesium phosphates in concretions.

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