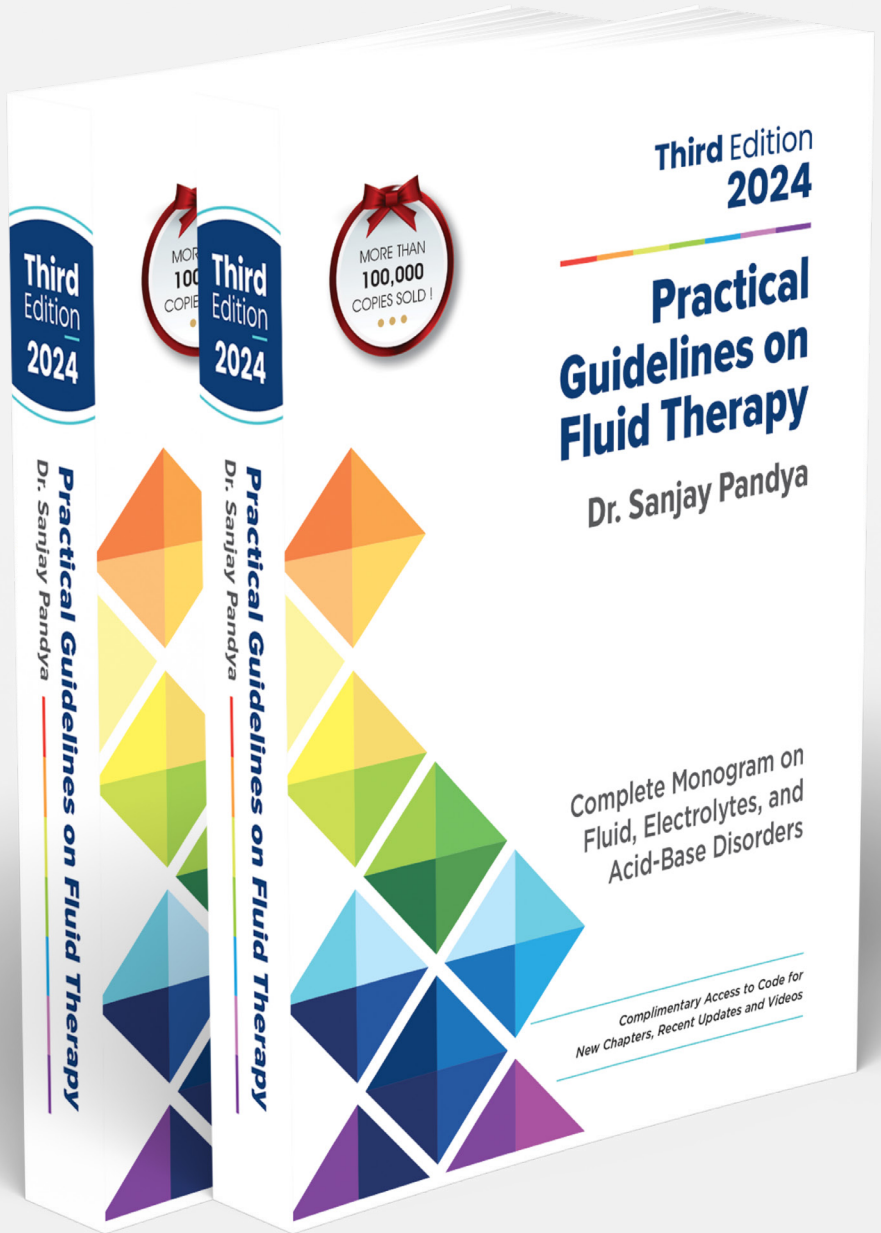
Chapter 27:
Hyperphosphatemia



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Hyperphosphatemia is defined as serum phosphate concentration greater than 4.5 mg/dL (1.45 mmol/L) in adults.

Renal excretion of phosphate is very effective, and therefore the person with normal renal function is unlikely to develop hyperphosphatemia because of increased phosphate intake. Therefore, Hyperphosphatemia is rare in the general population but commonly occurs in later stages of chronic kidney disease (CKD) with significantly impaired kidney function [1].

ETIOLOGY

Based on the mechanism of its development, the causes of hyperphosphatemia can be classified into four groups [1].

Decreased renal phosphate excretion

- Impaired renal phosphate excretion: Acute kidney injury (AKI) or chronic kidney disease with significant renal impairment are the most common cause of hyperphosphatemia [2].
- Increased renal tubular reabsorption: Hypoparathyroidism, vitamin D toxicity, acromegaly or thyrotoxicosis.

Transcellular shift

Transcellular shift from intracellular fluid (ICF) to extracellular fluid (ECF)

- Extensive cell destruction: Rhabdomyolysis, tumor lysis syndrome, or massive hemolysis.

- Severe acidosis: Severe lactic acidosis, diabetic acidosis and respiratory acidosis.
- Lack of insulin: Diabetic ketoacidosis (before treatment).

Acute massive phosphate load

Administration of phosphate-containing laxatives or enemas and IV or oral phosphate administration.

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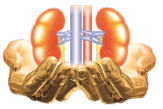
KidneyEducation 

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