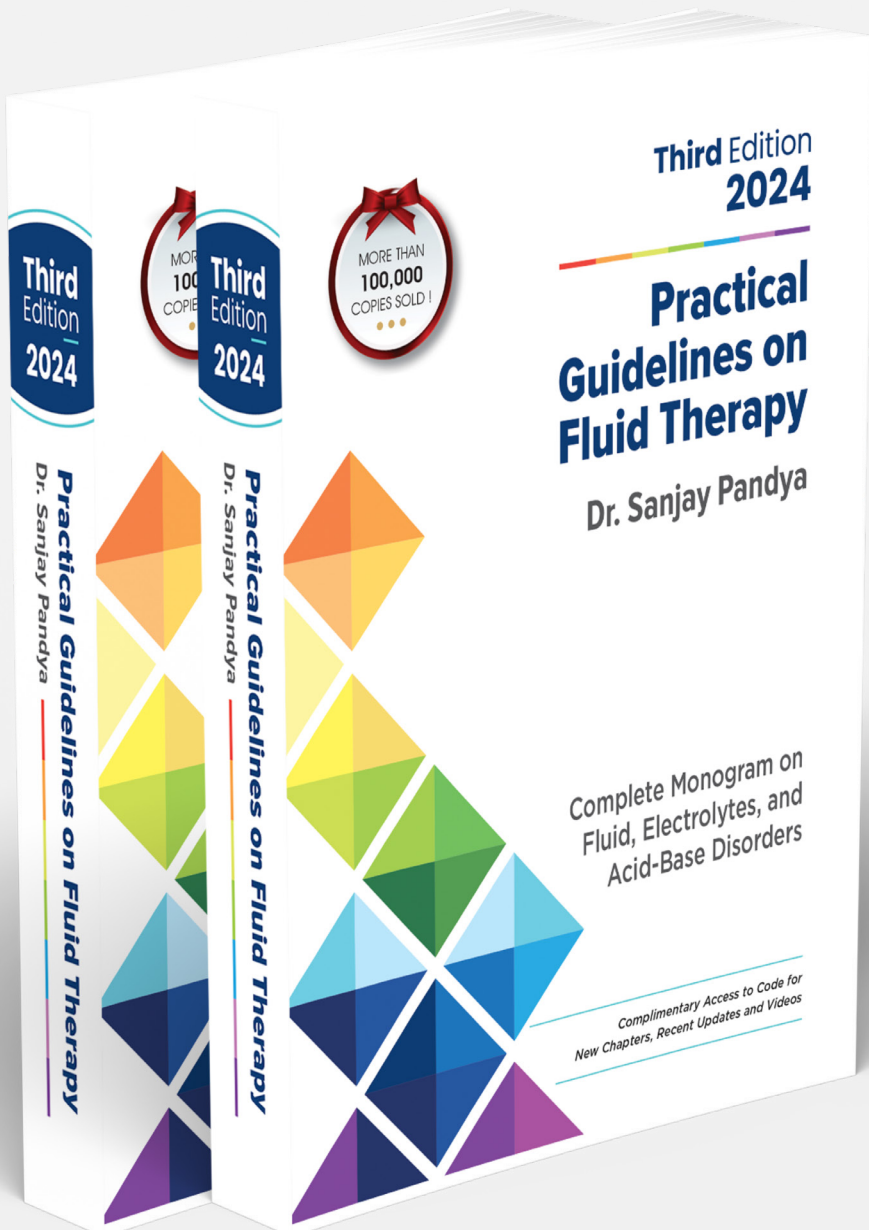




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Chapter 23: Hyperkalemia



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23

Hyperkalemia

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A serum potassium level greater than 5.5 mEq/L is considered hyperkalemia. The incidence of hyperkalemia is very low in the general population but increases in patients with chronic kidney disease (CKD), heart failure, diabetes and in patients receiving renin-angiotensin-aldosterone system inhibitor (RAASi) treatment [1–5]. Hyperkalemia is a potentially life-threatening electrolyte disorder associated with significantly increased hospitalizations, cardiovascular events, and all-cause mortality [6–9]. In addition, acute severe hyperkalemia is a potentially dangerous problem that can cause cardiac arrhythmias leading to cardiac arrest and death.

ETIOLOGY

The most common causes of hyperkalemia are renal dysfunction (acute or chronic), medication causing impaired potassium excretion, diabetes mellitus, cell lysis (rhabdomyolysis, tumor lysis syndrome, massive hemolysis), and pseudohyperkalemia [10]. The causes of hyperkalemia based on its mechanism of development are summarized in Table 23.1.

CKD is the most common risk factor for hyperkalemia, and hyperkalemia is the most common electrolyte disturbance in CKD [11, 12]. Furthermore, as CKD advances, the prevalence of hyperkalemia increases [3, 13].

A. Drug-induced hyperkalemia

Various drugs interfere with potassium homeostasis and can cause hyperkalemia by affecting renal potassium excretion, inhibiting the renin-angioten-

sin-aldosterone system, or promoting the transcellular potassium shift from intracellular fluid (ICF) to extracellular fluid (ECF) compartment (Table 23.2. Drug-induced hyperkalemia) [10, 14, 15].

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