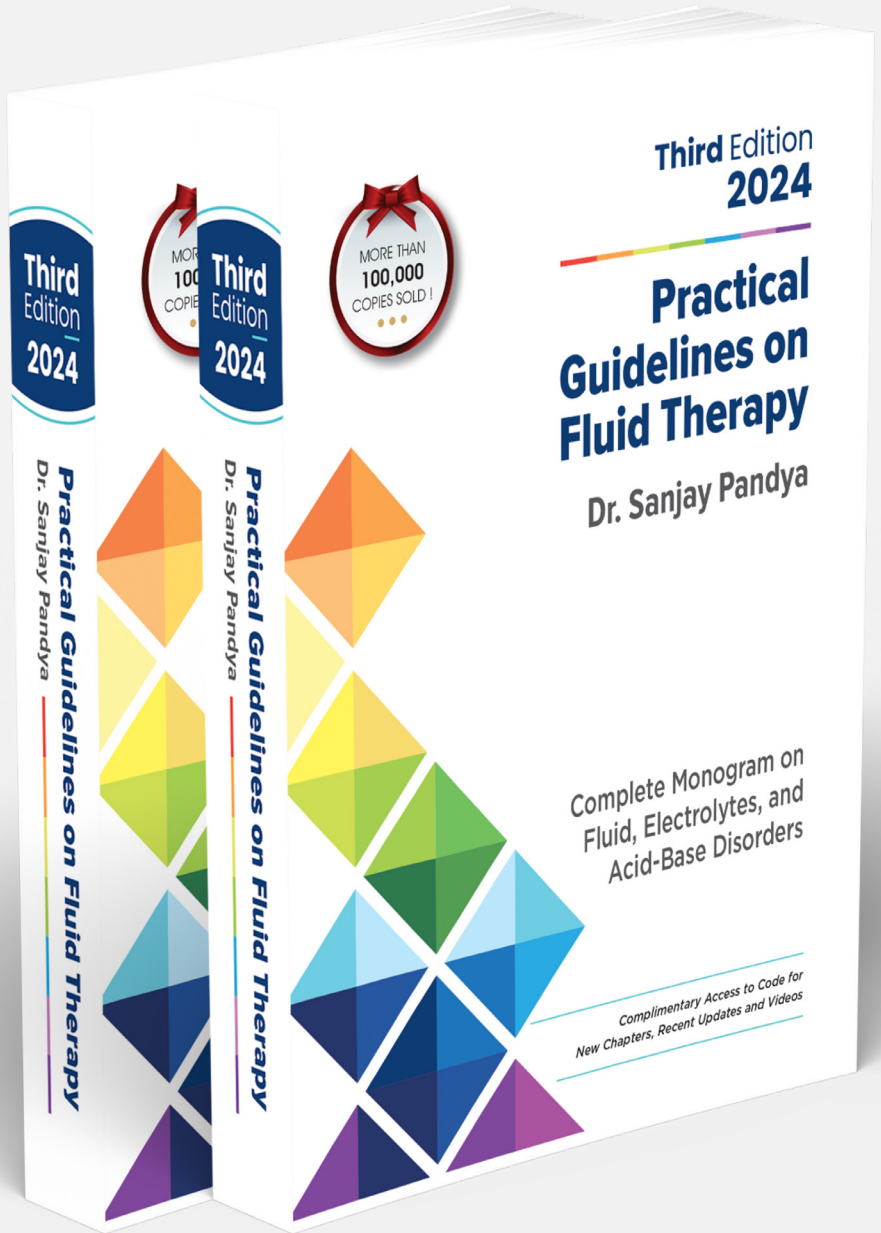
Chapter 34:

Gastrointestinal Losses and Upper GI Bleeding



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Loss of gastrointestinal (GI) secretions and hematemesis are frequently encountered problems in clinical practice. Several gastrointestinal disorders lead to loss of GI secretions causing electrolytes and acid-base disturbances. The composition of gastrointestinal secretions and potential disturbances due to their losses are summarized in Table 34.1 [1–3], which will help plan its management.

The most common disorders, vomiting, diarrhea, and hematemesis, will be discussed.

VOMITING

Vomiting or nasogastric suction is a common problem in clinical practice causing loss of fluid and electrolytes. Therefore, it is necessary to understand the basic pathophysiology of hypovolemia and electrolytes and acid-base abnormali-

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ties due to upper GI losses and the proper selection of IV fluids to correct it.

FLUID AND ELECTROLYTE ABNORMALITIES

It is important to understand the fluid and electrolyte abnormalities that commonly occur due to vomiting.

Gastric juice contains approximately: Sodium (Na^+) 20–60 mEq/L, chloride (Cl^-) 140 mEq/L, potassium (K^+) 14 mEq/L, and hydrogen ions (H^+) 60–80 mEq/L [2].

So, vomiting (or nasogastric-NG suction) leads to hypokalemic, hypochloremic metabolic alkalosis with hypovolemia. Due to the loss of HCl containing gastric juice, the first abnormalities usually occur in vomiting are hypochloremia with metabolic alkalosis, and hypokalemia occurs subsequently. The pathogenesis of these abnormalities is summarized below (Figure 34.1).

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