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Question:

1. Outline the toxicity values and deficiency manifestation of the following minerals

- (a) Potassium (b) calcium (c) magnesium
(d) chloride (e) iron

Answer:

DEFICIENCY MANIFESTATION (a) Potassium affects your heart's muscles work. Your heart may beat irregularly which in most cases can cause heart attack.

Signs of excess potassium are: weakness, numbness, vomiting, trouble breathing, chest pain, palpitations or irregular heart beats, muscle cramps, digestive problems, mood changes.

(b) Calcium: muscle problems, extreme fatigue, nail and skin symptoms, osteopenia and osteoporosis, painful premenstrual syndrome (PMS), dental problems, depression

(c) Magnesium: Tremor, poor co-ordination, muscle spasms, loss of appetite, personality changes and nystagmus

(d) Chloride: dehydration, fluid loss or high level of blood sodium may be noted (diarrhea, vomiting)

(e) Iron: Extreme fatigue, weakness, pale skin.

TOXICITY VALUES

(a) potassium: it's also called hyperkalemia if it's higher than 5.5 mmol/L and above 6 it's life threatening.

(b) calcium: it's called hypercalcemia occurs when serum calcium levels are 10.5 mg/L can weaken bones and create kidney stones

(c) magnesium: if serum concentrations exceed 1.74-2.61 mmol/L can cause vomiting, retention of urine, depression, extreme hypotension

(d) chloride: if it exceeds 250 mg/L

(e) Iron: Toxic effects begin to occur at doses above 10-20 mg/kg in terms of blood values, iron levels above 350-500 µg/dL are considered toxic and levels over 1000 µg/dL indicated severe iron poisoning