Hypoparathyroidism

An uncommon condition characterized by a low level of parathyroid hormone (PTH). Often caused by “accidental” removal of the parathyroid glands during thyroid surgery. Other causes of parathyroid deficiency include tumors and heavy metal poisoning. Treatment consists of taking supplements to normalize calcium and phosphorus levels.



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Assessment

Hypocalcemia
Hippo-calcified-cow
The clinical manifestations of hypoparathyroidism are due to hypocalcemia as decreased levels of parathyroid hormone lead to low serum calcium levels.

Lethargy
Leather-jacket
Lethargy is another common manifestation of hypocalcemia. The patient may also experience anxiety and personality changes.

Tetany
Titanic
Sudden decreases in calcium cause tetany (involuntary contraction of muscles). The patient may experience tingling of the lips and mouth or stiffness in the extremities.

Arrhythmias
Broken Arrhythmia-drum
Patients with hypoparathyroidism may experience dysrhythmias including a prolonged QT and ST segment.

Diagnostic Tests

Decreased Calcium and Increased Phosphorus
Down-arrow Calcium-cow and Up-arrow Phosphorus-P
Diagnostic tests confirming hypoparathyroidism will have a lower than normal serum calcium level and increased serum phosphorus levels.

Considerations

IV Calcium Chloride
IV Calcium-cow on Chlorine-dispenser
IV calcium chloride (or calcium gluconate) may be given. Be sure to assess IV patency before administration of this drug as it can cause venous irritation and inflammation.

Rebreather Mask
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A rebreather mask decreases the amount of carbon dioxide excreted from the lungs, thereby increasing carbonic acid levels in the blood, and lowering pH. A lower pH promotes calcium ionization, allowing for more total body calcium to be available in the active form. This can temporarily alleviate acute neuromuscular symptoms associated with hypocalcemia.

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Lifelong Medications

Lifelong-commitment Med-bottle

Removal of the parathyroid glands will require lifelong medications to be taken. Due to the expense and need for parenteral administration, PTH replacement is not recommended, but instead the patient will need to take oral calcium and vitamin D supplements daily for life.

Oral Calcium Supplements with Vitamin D

Oral Calcium-cow and Viking Daisy

Oral calcium supplements can be taken to increase serum calcium levels. Vitamin D is often given concurrently as it helps the body absorb calcium and eliminate phosphorus.

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