Syndrome of Inappropriate Antidiuretic Hormone (SIADH) Pharmacologic Interventions

Syndrome of Inappropriate Antidiuretic Hormone (SIADH) occurs when antidiuretic hormone (ADH) which normally regulates the retention of water by the kidneys is secreted in inappropriately increased amounts. Treatment of SIADH is aimed at correcting dilutional hyponatremia, closely monitoring for electrolyte and weight changes, as well as administering medications to decrease fluid retention. This card will cover the pharmacologic interventions, which include administration of diuretics, hypertonic IV fluids, and the medications Demeclocycline, Tolvaptan, and Conivaptal.

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Diuretics

Die-rocket

Diuretics are often administered to decrease sodium chloride reabsorption in the loop of henle. Loop diuretics specifically are effective in scenarios of high urine osmolarity. In severe cases of dilutional hyponatremia, diuretics may be supplemented with a hypertonic saline solution like 3% or 5% NaCl or a salt tablet.

Hypertonic IV Fluids

Hiker-tonic IV-bag

In severe cases of dilutional hyponatremia, a hypertonic IV fluid such as 3% or 5% sodium chloride (NaCl) may be administered. Be sure to implement careful monitoring.

Demeclocycline

Democratic-donkey-cycling

This medication is given especially in situations where patients cannot tolerate hypertonic solutions. It is a derivative of the antibiotic tetracycline. This medication inhibits the action of ADH on the renal tubules which allows diuresis of water.

Tolvaptan and Conivaptan

Toll-captain and Cone-captain

The drugs tolvaptan (Samsca) and conivaptan (Vaprisol) are given because they are vasopressin receptor antagonists and work in the kidney to treat euvolemia-hyponatremia. Careful monitoring while administering these medications is important as rapid correction of serum sodium levels can cause irreversible neurological damage like central pontine myelinolysis.

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