

ANNEXURE – III

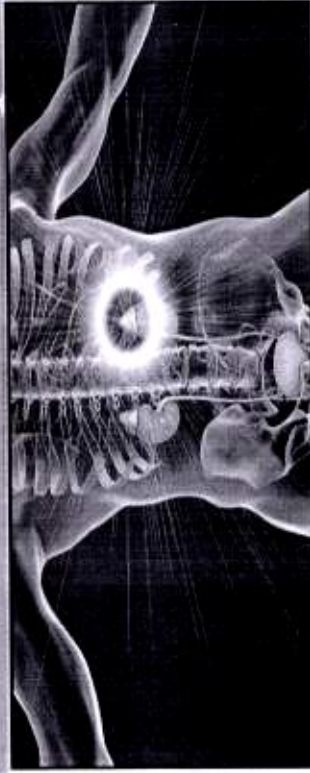
QUALITY OF TEACHERS AND TEACHING

Reference to 3(h) Teaching Learning Activities (Power Point Presentation and Teaching videos)



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SIADH (Syndrome of Inappropriate Antidiuretic Hormone Secretion)



Anatomical Introduction

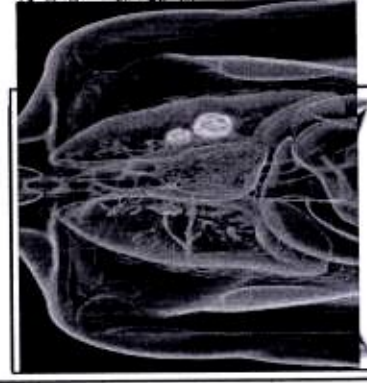


- ❖ Antidiuretic hormone (ADH), also known as vasopressin, is synthesized in the hypothalamus and transported to the posterior pituitary gland for storage and release.
- ❖ ADH acts primarily on the renal collecting ducts, where it increases water reabsorption by enhancing membrane permeability.
- ❖ This mechanism helps maintain fluid balance, plasma osmolality, and blood volume.
- ❖ Any disturbance in the regulation or secretion of ADH can lead to disorders of water balance, one of which is Syndrome of Inappropriate Antidiuretic Hormone Secretion (SIADH).

DEFINITION

SIADH is a disorder characterized by excessive secretion of antidiuretic hormone (ADH) leading to water retention, dilutional hyponatremia, and decreased plasma osmolality despite normal or increased blood volume.

ETIOLOGICAL FACTOR



- ❖ Malignancies (e.g., small cell lung carcinoma)
- ❖ Ectopic ADH production (e.g., pheochromocytoma)
- ❖ Primary failure of the hypothalamus
- ❖ Medications (e.g., thiazide diuretics)

ETIOLOGICAL FACTOR

4 r Drugs

- Antidepressants (SSRIs)
- Carbamazepine
- Cyclophosphamide
- Chlorpropamide
- Vincristine



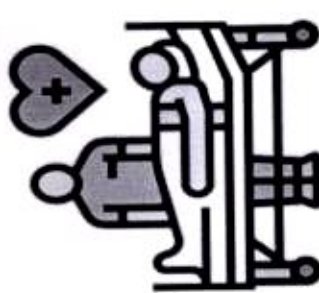
ETIOLOGICAL FACTOR

5 r Postoperative state

- Stress-induced ADH release

60 Others

- Pain
- Nausea
- Positive pressure ventilation



PATHOPHYSIOLOGY

CHART

CLINICAL MANIFESTATIONS

EARLY	MODERATE	SEVERE
• Nausea • Headache • Anorexia • Muscle cramps • Fatigue	• Confusion • Weakness • Vomiting • Restlessness	• Seizures • Coma • Respiratory arrest • Increased ICP

Manifestations in mild to severe hyponatremia and cerebral edema



Diagnostic Evaluation

- Serum sodium $\downarrow$ (<135 mEq/L)
- Serum osmolality $\downarrow$
- Urine osmolality $\uparrow$
- Urine sodium $\uparrow$
- Normal renal, adrenal, and thyroid function
- Low hematocrit and BUN (dilutional)



MANAGEMENT

1 r FLUID RESTRICTION
First-line treatment
• 500–1000 mL/day

2 r PHARMACOLOGICAL THERAPY
• Hypertonic saline (3%) in severe hyponatremia
• Loop diuretics
• Vasopressin receptor antagonists (vaptans)
• Demeclocycline

MANAGEMENT

3 r TREAT UNDERLYING CAUSE
• Infection treatment
• Tumor management
• Drug discontinuation

4 r SEVERE CASES
• Slow sodium correction (to prevent central pontine myelinolysis)
• ICU monitoring

┆ NURSING MANAGEMENT

- Strict fluid intake monitoring
- Daily weight
- Monitor neurological status
- Seizure precautions
- Monitor serum sodium
- I/O charting
- Patient education on fluid restriction
- Monitor for signs of cerebral edema



┆ COMPLICATIONS

- Cerebral edema
- Seizures
- Coma
- Respiratory arrest
- Central pontine myelinolysis (rapid correction)

┆ Patient Education

- Adhere to fluid restriction
- Monitor neurological symptoms
- Avoid drugs causing SIADH
- Regular electrolyte monitoring
- Follow-up visits



THANK YOU.

Looking forward to the next meeting.

