Antidiuretic Hormone (Vasopressin) – [Plasma] Analysis

Objective

The objective of this test is to measure plasma levels of antidiuretic hormone (ADH), also known as vasopressin. This test helps evaluate water balance disorders, including diabetes insipidus and the syndrome of inappropriate antidiuretic hormone secretion (SIADH).

Materials and Methods

Materials:
- Plasma sample from patient
- Immunoassay kits for vasopressin (RIA or ELISA)
- Cold storage equipment (ADH is unstable at room temperature)
- Standard laboratory equipment (centrifuge, pipettes)

Methods:
1. Sample Collection: Collect venous blood in EDTA tubes; keep on ice and centrifuge promptly to separate plasma.
2. Preservation: Store plasma at -20°C or lower until analysis to prevent degradation.
3. Hormone Measurement: Perform vasopressin assay using RIA or ELISA.
4. Interpretation: Compare ADH levels with plasma osmolality and sodium concentration for diagnosis of water balance disorders.
5. Quality Control: Use assay controls to ensure validity of results.

Results

- Normal plasma ADH: 1–5 pg/mL (varies by laboratory)
- Elevated ADH: Suggestive of SIADH, dehydration, or stress response
- Decreased ADH: Indicates diabetes insipidus or excessive water intake (psychogenic polydipsia)

Conclusion

Plasma antidiuretic hormone testing is essential for evaluating disorders of water balance. Results should be interpreted in conjunction with plasma osmolality, sodium levels, and clinical findings for accurate diagnosis and management.