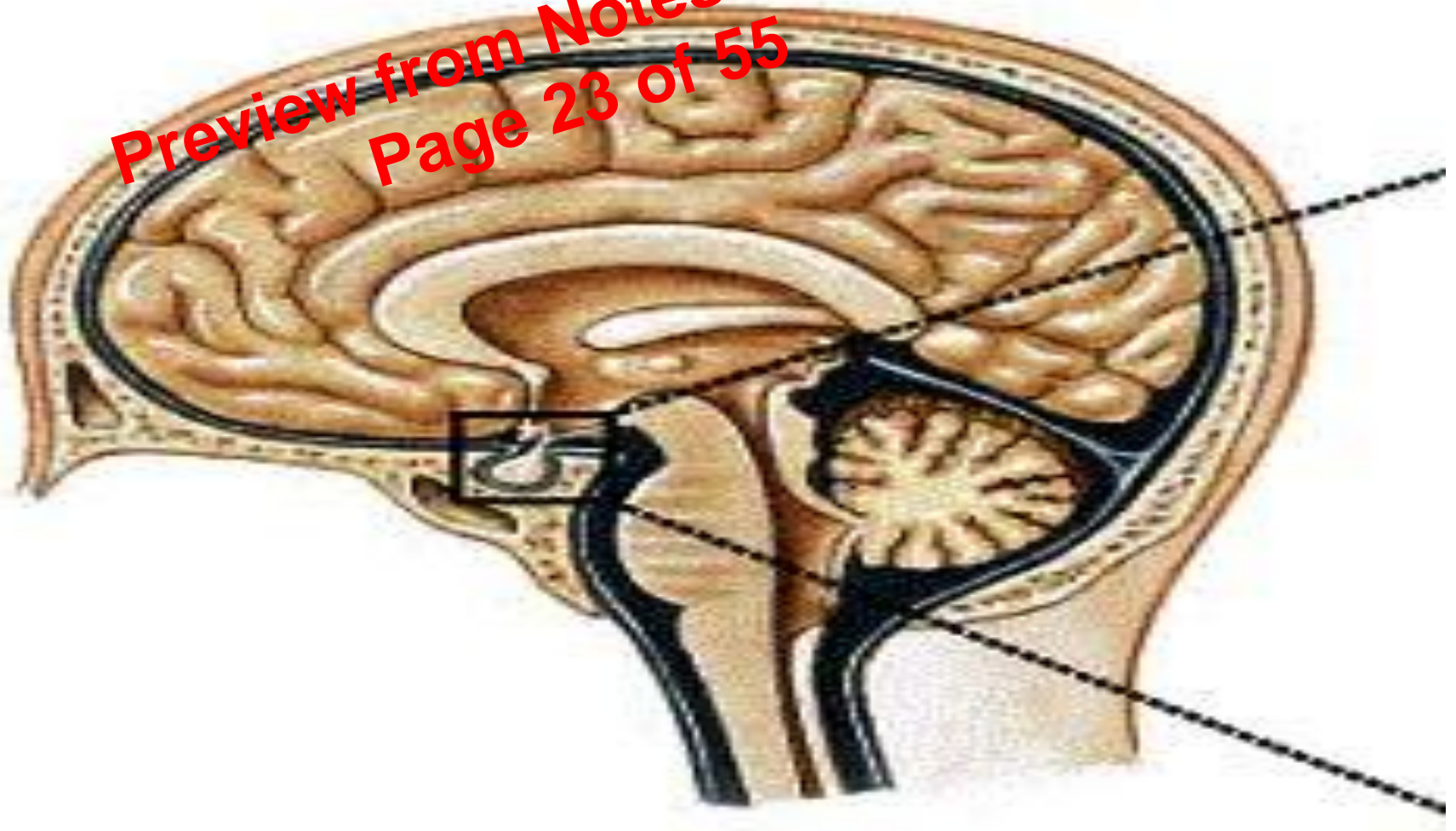


Preview from [Notesale.co.uk](http://Notesale.co.uk)  
 Page 20 of 55

# Location of the Pituitary

Preview from [Notesale.co.uk](http://Notesale.co.uk)  
Page 23 of 55



- In the absence of ADH, the volume of urine markedly increases and its tonicity markedly decreases.
- **Vasoconstriction:**
- This effect is produced only by high concentrations of ADH.
- ADH acts on the  $v_{IA}$  receptors on the smooth muscles of the vascular wall  $\rightarrow$  vasoconstriction — elevation of arterial blood pressure. Vasopressin is one of the most powerful vasoconstrictors known.
- The vasoconstriction it produces is severe, involving all the vessels, even the coronaries.

Preview from Notesale.co.uk  
Page 38 of 55

- ADH secretion is inhibited by:
- **1. Plasma hypotonicity**
- **2. Hypervolemia**
- **3. Alcohol**

# Disorders of ADH secretion

- **Excess ADH secretion**
- The syndrome of inappropriate secretion of ADH (SIADH)
- SIADH has a wide variety of causes and is very common.
- The causes of SIADH include:
  - **1. Chest diseases:** Bronchocarcinoma, tuberculosis, emphysema, bronchial asthma, artificial ventilation.
  - **2. Intracranial diseases:** Brain tumors, meningitis, hemorrhage, acute psychosis

# Effects and manifestations of the excess ADH secretion

- There is water retention which leads to hemodilution and hyponatremia.
- Mild cases could be asymptomatic, but in severe cases symptoms of water intoxication and hyponatremia appear.
- These include lethargy, general weakness, anorexia, nausea, vomiting, muscle cramps, confusion, convulsions, coma, and in severe cases death may occur.

- Preview from Notesale.co.uk  
Page 44 of 55
- Damage of the posterior pituitary itself or cutting the pituitary stalk produce only temporary DI from which the patient recovers .

# Manifestations

- **1. Polyuria**, i.e. passage of large volume of dilute urine. Urine volume could go up to 23 L/day (normal: 1.5 L/d), and its osmolarity down to 100 mosm/L (normal: 550 mosm/L).
- **2. Polydipsia**, i.e. drinking of large amounts of fluids.
- In the presence of polyuria, polydipsia is life saving.
- Thirst sensation is a good gauge of the body needs of water. If thirst sensation is suppressed for any reason and water is taken blindly to substitute the lost water, dehydration or overhydration can rapidly develop which could be fatal.

## And inhibited by:

- 1. Fear.
- 2. Pain.
- 3. Alcohol
- There are no known syndromes which result from hypo- or hypersecretion of oxytocin in humans.

Preview from Notesale.co.uk  
Page 55 of 55