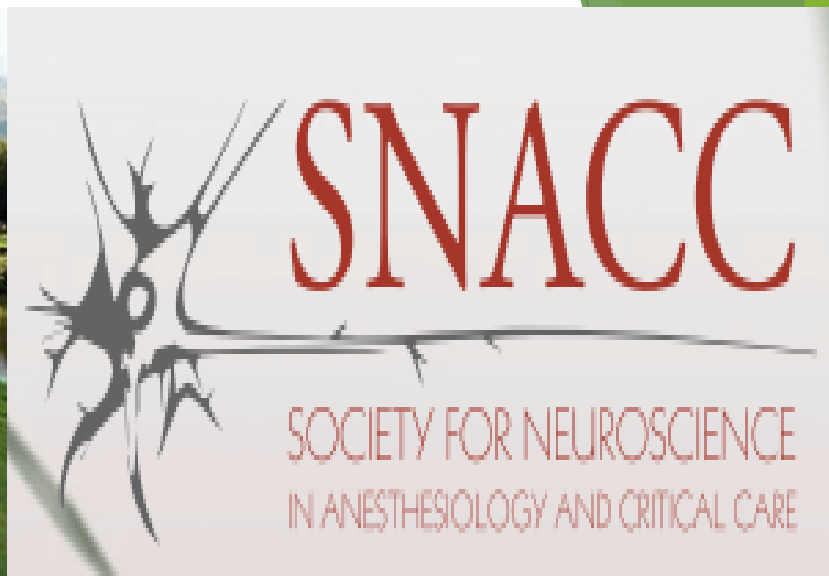




Quiz 18



This quiz is being published on behalf of the Education Committee of the SNACC

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**START**

1. Which of the following statements about the anatomy of the pituitary fossa is FALSE?

- A. It lies in the *sella turcica* of the ethmoid bone
- B. The *diaphragma sella* covers it superiorly
- C. It is limited posteriorly by the clivus
- D. It is limited anteriorly by the sphenoid sinus

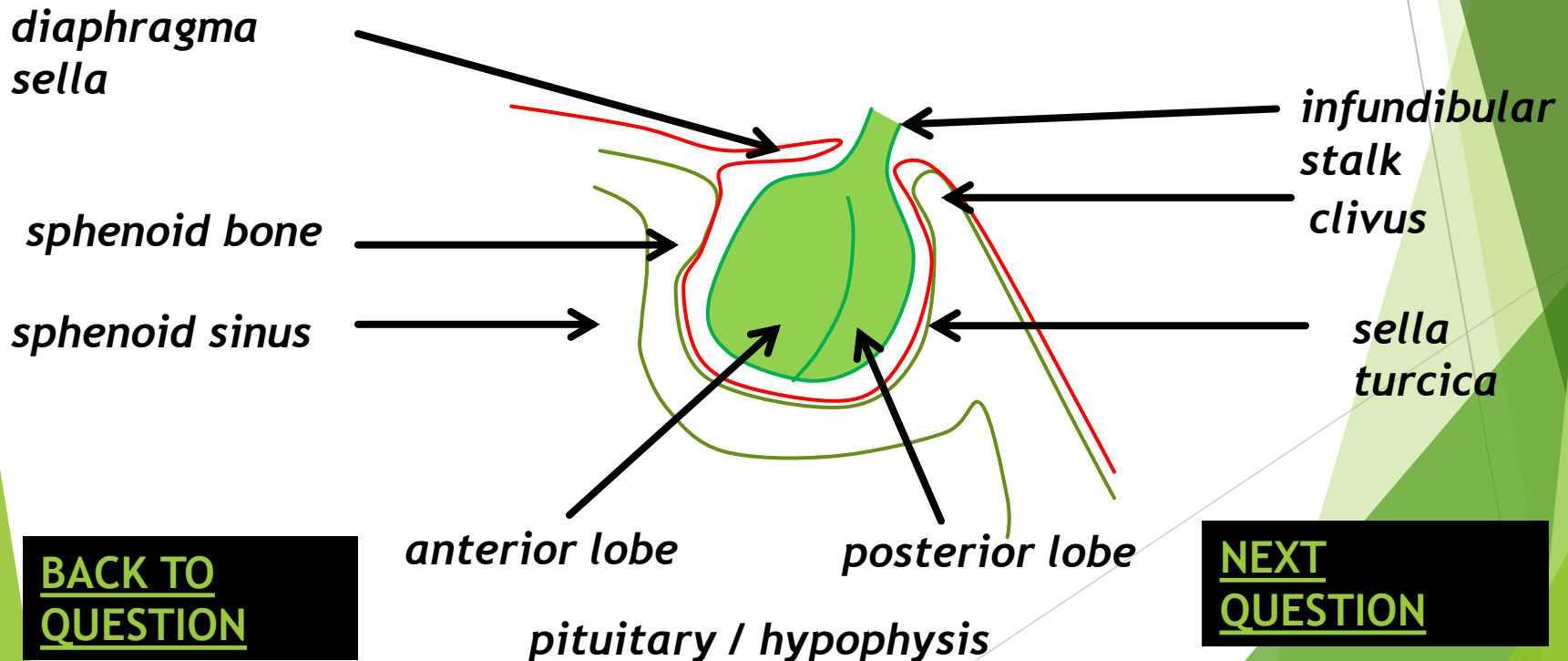
[NEXT QUESTION](#)

Correct



A. It lies in the *sella turcica* of the ethmoid bone

- ▶ This is a false statement as the *sella turcica* is in the **Sphenoid** and not **ethmoid**



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## B. The *diaphragma sella* covers it superiorly

- ▶ This statement is true
- ▶ The roof of the *sella turcica* is created by an incomplete fold of dura, the *diaphragma sella*, through which passes the pituitary stalk

INCORRECT  
TRY AGAIN

## C. It is limited posteriorly by the clivus

- ▶ This statement is true
- ▶ The *sella turcica* is limited posteriorly by the clivus of the sphenoid

INCORRECT  
TRY AGAIN

D. It is limited anteriorly by the sphenoid sinus

- ▶ This statement is true
- ▶ The fossa is limited anteriorly and inferiorly by the sphenoidal air sinuses

INCORRECT  
TRY AGAIN

2. Which of the following statements about pituitary adenomas is FALSE?

- A. They most often arise from the anterior pituitary
- B. Functioning tumors produce a single, predominant hormone
- C. Micro-adenomas are usually non-functioning and detected incidentally
- D. Macro-adenomas present late with headache as the presenting complaint

[PREVIOUS QUESTION](#)

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## A. They most often arise from the anterior pituitary

- ▶ This statement is true
- ▶ The pituitary tumors or adenoma arises from the adenohypophysis or anterior pituitary

INCORRECT  
TRY AGAIN



## B. Functioning tumors produce a single, predominant hormone

- ▶ This statement is true
- ▶ Functioning adenomas arise from a particular cell type and produce a single hormone.
- ▶ E.g. Cushing's disease (excess ACTH) Thyrotoxicosis (excess TSH)

INCORRECT  
TRY AGAIN

Correct



C. Micro-adenomas are usually non-functioning and detected incidentally

- ▶ This statement is False
- ▶ Micro-adenomas are <10mm in diameter and present with hormonal excess (functional) and therefore are detected in the early stage
- ▶ E.g. Cushing's disease (excess ACTH)  
Thyrotoxicosis (excess TSH)

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## D. Macro-adenomas present late with headache as the presenting complaint

- ▶ This statement is true

Macro-adenomas are  $> 10\text{mm}$  in size and present with symptoms of local mass effect such as headache, subtle visual field defects. Larger tumors can cause hypopituitarism, cranial nerve palsies & hydrocephalus

- ▶ They are non-functioning tumors and therefore detected later

INCORRECT  
TRY AGAIN

3. Which of the following statements about pituitary tumors are FALSE?

- A. Cushing's disease is associated with glucose intolerance
- B. Acromegaly is associated with cardiac instability
- C. Prolactinoma are the rarest of the functioning pituitary adenomas
- D. Excess prolactin secretion cause galactorrhea

[PREVIOUS QUESTION](#)

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## A. Cushing's disease is associated with glucose intolerance

- ▶ This statement is true
- ▶ Glucose intolerance is seen in almost 2/3<sup>rd</sup> of patients with Cushing's disease, half of whom will have frank diabetes

INCORRECT  
TRY AGAIN

## B. Acromegaly is associated with cardiac instability

- ▶ This statement is true
- ▶ Patients with acromegaly may have refractory hypertension, left ventricular hypertrophy, ischemic heart disease, arrhythmias, heart block, cardiomyopathy, and bi-ventricular dysfunction, leading to cardiac instability during anesthesia

INCORRECT  
TRY AGAIN

Correct



## C. Prolactinoma are the rarest of the functioning pituitary adenomas

- ▶ This statement is false
- ▶ Prolactinoma are the commonest functioning pituitary adenomas accounting for about 30% of all pituitary tumors.
- ▶ Surgery is indicated only if medical management with dopamine agonist, bromocriptine and cabergoline fails

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## D. Excess prolactin secretion cause galactorrhea

- ▶ This statement is true
- ▶ Hyper-prolactinemia causes galactorrhea & menstrual dysfunction in women and secondary hypogonadism, reduced libido & erectile dysfunction in men

INCORRECT  
TRY AGAIN



4. Trans-sphenoidal approach for resection of pituitary tumor is NOT recommended for:

- A. Functioning pituitary adenoma
- B. Non-functioning adenoma
- C. Large pituitary adenoma
- D. Deviated nasal septum

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## A. Functioning pituitary adenoma

- ▶ Vast majority of surgical resections of pituitary tumors, including functional, are now done by trans-sphenoidal approach.
- ▶ The advantages are minimal surgical trauma, blood loss, direct access

INCORRECT  
TRY AGAIN

## B. Non-functioning adenoma

- ▶ Vast majority of surgical resections of pituitary tumors, are now done by trans-sphenoidal approach.
- ▶ Although, non-functional adenoma may be large at the time of diagnosis, 'non-functionality' is not a contraindication for trans-sphenoidal approach

INCORRECT  
TRY AGAIN

Correct



## C. Large pituitary adenoma

- ▶ Although, most pituitary surgery is now done by trans-sphenoidal approach, transcranial approach may be indicated if the tumor is large or when there is little or no intra-sellar tumor or the trans-sphenoidal approach has failed

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## D. Deviated nasal septum

- ▶ Vast majority of surgical resections of pituitary tumors, are now done by trans-sphenoidal approach.
- ▶ A deviated nasal septum does not preclude the approach to the sphenoid bone

INCORRECT  
TRY AGAIN

5. 12h following a trans-sphenoidal resection of pituitary adenoma, the patient becomes restless and labs show Hb 9g%, Na 130 mEq/L, K 4 mEq/L, glucose 150 mg%, urinary Na 40mEq/L. The likely diagnosis is?

- A. Diabetes insipidus
- B. Hypoxemia
- C. Syndrome of Inappropriate ADH secretion
- D. Excess IV administration of 5% dextrose

PREVIOUS QUESTION

REFERENCES

## A. Diabetes insipidus

- ▶ Diabetes insipidus is a relatively common complication of trans-sphenoidal surgery but is transient usually in the first 24-48h.
- ▶ Polyuria and dilute urine (sp. gravity  $<1.005$ )
- ▶ Serum Na  $> 145$  mEq/L needs treatment
- ▶ Desmopressin is the treatment of choice

INCORRECT  
TRY AGAIN

REFERENCES

## B. Hypoxemia

- ▶ Although restlessness can be a symptom of hypoxemia, it is unlikely in this situation, 12 h after surgery

INCORRECT  
TRY AGAIN

REFERENCES



Correct



## C. Syndrome of Inappropriate ADH secretion

- ▶ Hyponatremia after pituitary surgery is due to SIADH
- ▶ Hyponatremia with hyperosmolar urine
- ▶ Serum uric acid levels may also be low
- ▶ Treatment is fluid restriction and hypertonic saline if  $\text{Na} < 120 \text{ mEq/L}$

End of Set

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## D. Excess IV administration of 5% dextrose

- ▶ Excess administration of dextrose cannot explain all these lab values and this blood glucose cannot explain restlessness

INCORRECT  
TRY AGAIN

REFERENCES

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## References:

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2. Menon R, Murphy PG, Lindley AM. Anaesthesia and pituitary disease. *Continuing education in Anaesthesia, Critical Care & Pain* 2011; 11:133-37
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