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
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
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
This statement is true

The *sella turcica* is limited posteriorly by the clivus of the sphenoid
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
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
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
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)
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)
D. Macro-adenomas present late with headache as the presenting complaint

- This statement is true

  Macro-adenomas are > 10mm 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
A. Cushing’s disease is associated with glucose intolerance

- This statement is true
- Glucose intolerance is seen in almost \( \frac{2}{3} \) of patients with Cushing’s disease, half of whom will have frank diabetes
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.
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.
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
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
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
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.
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.
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
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
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
B. Hypoxemia

Although restlessness can be a symptom of hypoxemia, it is unlikely in this situation, 12 h after surgery.
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 Na< 120 mEq/L
D. Excess IV administration of 5% dextrose

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

