

# Cushing syndrome

## **MCQs**

- false statement?

**Cushing disease cannot be treated medically**

- A 70-year-old woman is seen for follow-up evaluation for possible Cushing syndrome. She presented with new-onset diabetes mellitus and a 9.1 -kg (20-lb) weight gain over the last 6 months. Medical history is otherwise unremarkable, and she is currently taking no medications and has had no exposure to exogenous glucocorticoids in the past year. On physical examination, blood pressure is 160/90 mm Hg, pulse rate is 80/min, and respiration rate is 12/min. BMI is 30. Facial plethora, central obesity, and bilateral supraclavicular fat pads are noted. There are violaceous abdominal striae measuring 1 cm wide and multiple ecchymoses on the extremities. Initial laboratory studies show a serum cortisol level of 9 pg/dL (248.4 nmol/L) following a 1 -mg dose of dexamethasone the night before, and a 24-hour urine free cortisol level that is greater than 3 times the upper limit of normal, which is confirmed on a second measurement. A plasma adrenocorticotrophic hormone (ACTH) level is undetectable. Which of the following is the most appropriate diagnostic test to perform next? Select one:

- CT scan of the adrenal glands**
- Inferior petrosal sinus sampling
- Late night salivary cortisol measurement
- MRI of the pituitary gland
- Synactin test

- All of the following features are seen in Cushing's syndrome except one :

- Hyperglycemia
- Hyponatremia**
- Hypokalemia
- Hypocalcemia
- Central obesity

- Which of the following is a feature of Cushing's syndrome?

- Fibrous dysplasia
- Vertebral collapse**
- Calcium pyrophosphate arthropathy
- Osteomalacia
- Osteoarthritis

### Diseases with electrolyte patterns

- Addison's disease (Primary adrenocortical insufficiency)
  - Na ↓      K ↑      Ca ↑
- Cushing's syndrome (excess plasma cortisol)
  - Na ↑      K ↓      Ca ↓
- Conn's Syndrome (hyperaldosteronism)
  - Na ↑ ↔      K ↓

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**Cushing's syndrome is associated with osteoporosis and increased risk of fractures, particularly in the vertebrae.**

- Psychiatric symptoms may be a presenting feature of the following disorders?
  - a. Hypothyroidism
  - b. Vitamin B12 deficiency
  - c. Bronchial carcinoma
  - d. Cushing's disease
  - e. Crohn's disease
- first test to diagnose Cushing?
  - A. Synacthen test
  - B. Salaiva
  - C. High dose dexamethasone ?**
  - D. CT brain
- Not cause of cushing : **Adrenal hemorrhage**
- .Case Cushing ..... Diagnostic test ??—  
**24h urine free cortisol**
- most common cause for cushing other itrogenic : **pituitary adenoma**
- Correct about Cushing syndrome:
  - a. Loss of diurnal variation is a reliable sign for diagnosis
  - b. ACTH level elevated
- Causes of hypercalcemia, except:
  - A. Cushing**
  - B. Thiazides
- In Cushing syndrome, one is correct:
  - A. Significant hypokealima is associated with Cushign diseas
  - B. Easy bruisability is associated only with oral steroid therapy - induced cushign syndrome
  - C. Loss of diurnal variation of serum cortiosol is found in cushing syndrome**
  - D. Proimal myopathy is a rare feature of Cushing syndrome
  - E. Glucose intolerance in Cushing syndrome is related to suppression of insulin release

**Normally, cortisol levels are higher in the morning and lower in the evening, but in Cushing syndrome, cortisol levels may remain consistently elevated throughout the day.**

- all the following are true in Cushing Except :
  - a- ectopic ACTH is association with sever weight gain without electrolytes disturbances ?
  - b- Cushing disease is usually due to pituitary micro-adenoma ?
  - c- Salivary cortisol level has low sensitivity and specificity
  - d- Cushing disease is a major component in MEN-1
  - E- Ectopic ACTH Cushing is associated with metabolic acidosis and hyperkalemia ?

A 62-year-old woman is evaluated for an incidentally discovered left adrenal mass. Two weeks ago, the patient was evaluated in the emergency department for diffuse abdominal pain and vomiting. A CT scan was obtained that was normal except for the adrenal mass. Three hours after presentation to the emergency department, the pain resolved spontaneously. Her medical history is significant for diet-controlled type 2 diabetes mellitus diagnosed 1 year ago and osteoporosis diagnosed 4 years ago. Her only medication is alendronate. On physical examination, temperature is 37.0 °C (98.6 °F), blood pressure is 120/80 mm Hg, and pulse rate is 70/min. BMI is 26. The remainder of the physical examination is normal. Laboratory evaluation reveals a serum sodium level of 139 mEq/L (139 mmol/L) and serum potassium level of 4.1 mEq/L (4.1 mmol/L). The previously obtained CT scan shows a 2.0-cm well-circumscribed, left adrenal lesion with a density of 5 Hounsfield units. In addition to screening tests for pheochromocytoma, which of the following is the most appropriate diagnostic test to perform next?

- a. Adrenal vein sampling
- b. Low-dose dexamethasone suppression test
- c. Plasma renin activity and aldosterone concentration measurement
- d. ACTH stimulation test
- e. No further testing ??

- All of the following statement regarding lung cancer are true EXCEPT :
  - a. Small cell lung carcinoma metastasis late in the course of the disease
  - b. Adenocarcinoma usually is a peripheral lung tumor .
  - c. Adenocarcinoma in some cases is difficult to be differentiated from mesothelioma .
  - d. Thromboembolic disease can be the first manifestation of the disease.
  - e. Surgery can be curative for early diagnosed cases .

Answer: “A. Compared to non-small cell lung cancer, small cell lung cancer is just bad disease. The tumor grows fast and metastasizes early. Small cell is more often associated with paraneoplastic syndromes (e.g., Eaton- Lambert) and ectopic hormonal syndromes (e.g., SIADH). , or Cushing that the synthesis of hormones (like; cortisol) by tumors from tissues that do not normally produce the hormone (lung).

# Mini-OSCE

# Q6 - One of the following is not typically found in those patients?

- a. Buffalo hump
- b. Acne
- c. Hirsutism
- d. Central obesity
- e. Skin thickening**



Q8 - A 38 year old female, referred to you with high fasting blood sugar, this photo is typical of?

**a. Cushing's syndrome**

b. Acromegaly

c. Morbid obesity

d. Addison's disease

e. Pituitary failure



## Q5 : diagnosis for the patient ?

- DM
- Addison's
- **Cushing's**
- Hypothyroidism





# Q4

**A pt presented with puffiness in the face & increase in weight.**

**Q1: What is your most likely Dx?**

**Cushing syndrome**

**Q2: What test should you do to confirm your Dx?**

- \*24-hr Urinary free Cortisol level
- \*Overnight(low dose) Dexamethasone Suppression Test



# Note

In Cushing :

Initial screening tests : Low dose dexamethasone suppression and 24-hr urinary free cortisol

**WHILE , After Establishing the Dx --**

Detection the cause of Cushing By :

1-ACTH level

2-High dose Dexamethasone suppression test

3-CRH stimulation test

4- Imaging tests :MRI, CT

# Station 16

**Q1 : Dx?**

Cushing syndrome

**Q2 : mention 3 screening tests for this condition?**

- 1- 24 urine collection for cortisol
- 2- Dexamethasone suppression test
- 3- imaging test



## **Station 7**



Name : **Moon face or cushingoid face**

# Q4

- Diagnosis?
  - Cushing syndrome
- Metabolic findings?
  - hyperglycemia
  - hypokalemia
  - hypernatremia



# ENDOCRINE SECTIONS

Q1: What is your  
diagnosis ?

**CUSHING SYNDROME**



A 15 years old child present with periorbital edema  
A case of nephrotic syndrome



### **Q1 \ how to diagnose?**

- 1- 24 hours protein urine collection
- 2- serum albumin level & protein-albumin ratio
- 3- kidney function test

### **Q2 \ mention 3 physical findings you could see in this patient?**

- 1- ascites
- 2- lower limb edema
- 3- crackles on auscultation

### **Q3 \ mention one line of management?**

Steroid

### **Q4 \ Mention 2 complications of the drug prescribed?**

- 1- osteoporosis
- 2- Cushing syndrome
- 3- immunosuppression



# Station 3:

A patient with a known history of SLE ..... Came with BP (high) and HB1Ac = 8%.

1) What is your diagnosis?

Cushing syndrome

1) What are three things in the picture that support your diagnosis?

Moon face – hirsutism – striae

1) What is the most likely cause?

Iatrogenic due to Exogenous steroids (SLE medication)

