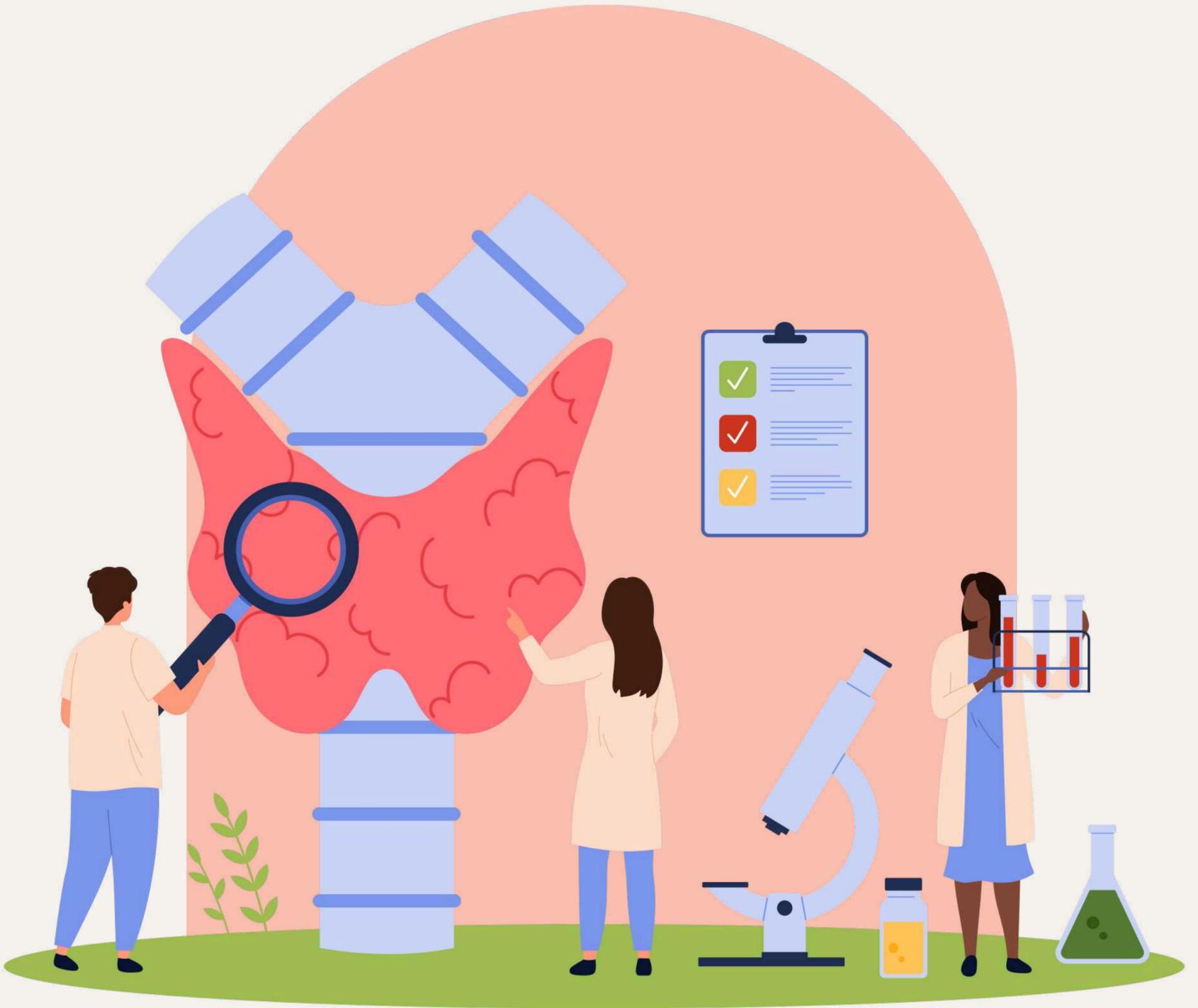
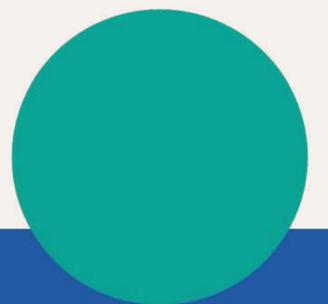


ENDOCRINE

INTERNAL MEDICINE



Archive



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CUSHING SYNDROM

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 adrenocorticotropic hormone (ACTH) level is undetectable. Which of the following is the most appropriate diagnostic test to perform next? Select one:

- a. CT scan of the adrenal glands
- b. Inferior petrosal sinus sampling
- c. Late night salivary cortisol measurement
- d. MRI of the pituitary gland
- e. Synactin test

Answer: a

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

- a. Hyperglycemia
- b. Hyponatremia
- c. Hypokalemia
- d. Hypocalcemia
- e. Central obesity

Answer: b

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

- a. Fibrous dysplasia
- b. Vertebral collapse
- c. Calcium pyrophosphate arthropathy
- d. Osteomalacia
- e. Osteoarthritis

Answer: b

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

All true

• first test to diagnose Cushing?

- A. Synacthen test
- B. Saliva
- C. High dose dexamethasone
- D. CT brain

Answer: b

Not cause of Cushing : Adrenal hemorrhage

- Case Cushing Diagnostic test ??—24h urine free cortisol
- most common cause for Cushing other than 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

CUSHING SYNDROME

In Cushing syndrome, one is correct:

- A. Significant hypokalemia is associated with Cushing disease
- B. Easy bruisability is associated only with oral steroid therapy-induced Cushing syndrome
- C. Loss of diurnal variation of serum cortisol is found in Cushing syndrome
- D. Proximal myopathy is a rare feature of Cushing syndrome
- E. Glucose intolerance in Cushing syndrome is related to suppression of insulin release

Answer: c

all the following are true in Cushing Except :

- a- ectopic ACTH is associated with severe weight gain without electrolyte 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

Answer: c/a

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

Answer: b

All of the following statements regarding lung cancer are true EXCEPT :

- a. Small cell lung carcinoma metastasizes 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

false statement? Cushing disease cannot be treated medically

Most common cause of non-iatrogenic cause of Cushing syndrome?

- A) Adrenal adenoma
- B) Pituitary tumor
- C) Ectopic ACTH secretion

Answer: b

Cushing syndrome, false: Serum cortisol is the best initial test

Minie osce

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

1- diagnosis?

cushing disease

2- what you see in lab test ?

BMP : hypernatremia,

hypokalemia

Hyperlipidemia

Cbc: lymphocytopenia, neutrophilia

3- how to confirm diagnosis ?

24 hour collection urin



Name : **Moon face or cushingoid face**



Name of this : **abdominal stria**

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)



Minie 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



Q17: What is the expected acid-base imbalance:

- **Hypokalemic metabolic alkalosis.**

Q18: Next step in diagnosis is:

- **24h urine free cortisol**



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

• Metabolic findings?

- hyperglycemia
- hypokalemia
- hypernatremia



ADRENAL INSUFFICIENCY & HYPOPITUITIRIS

• 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 ?

ans:e

• A 40-year old man post thyroidectomy for medullary thyroid carcinoma presents with hypertension and complains of attacks of severe headache and palpitations. He is noted to have glycosuria. Which ONE of the following is most likely cause of his hypertension.?

- a- Cushing syndrome.
- b- Primary hyperaldosteronism.
- c- Essential hypertension
- d- Pheochromocytoma
- e- Polyarteritis nodosa.

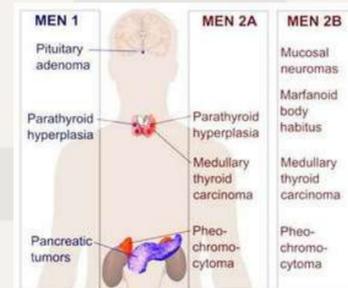
ans:d

• All the following may be findings in primary hypoadrenalism (Addison's disease) Except.

- a- hypernatremia with hypokalemia
- b- palmar creases skin pigmentation
- c- impotence and amenorrhoea
- d- postural hypotension
- e- weight loss

ans:a

• A patient who has prolactinoma suspected to have :
(men 1 syndrome) Pheochromocytoma



ناسية باقي الخيارات بس هاذالغلط

• Primary causes of hypoadrenalism include all of the following except Select one:

- a. Addison's disease
- b Hypopituitarism
- c. intra-adrenal hemorrhage
- d. Congenital adrenal hypoplasia
- e Tuberculosis affecting the adrenal glands

ans:b

• The adrenal glands, one is correct:

- A. The zona reticularis is the most important area in the cortex during embryogenesis
- B. There is no relation between the adrenal cortex and the adrenal medulla regarding catecholamine synthesis a Wrong! Cortisol increases catecholamine synthesis.
- C. Pheochromocytoma is associated with high blood pressure and hyperkalemia
- D. Atrophy of the glands is a late sign of autoimmune adrenalitis
- E. Zona fasciculata is the place for adrenal androgen synthesis

ans:d

Autoimmune adrenalitis (Addison's disease) can lead to atrophy of the adrenal glands over time as the immune system attacks the adrenal cortex

ADRENAL INSUFFICIENCY & HYPOPITUITIRIS

A 18-year-old patient is brought to the office because his mother is concerned he is entering puberty already. You examine him and note the beginnings of facial hair, axillary hair and Tanner stage 2 external genitalia. Choose the set of investigations you initially want to do?

- a. CBC, electrolytes, testosterone, bone age, CT head
- b. FSH, LH, testosterone, electrolytes, bone age, DHEA-S ???
- c. FSH, LH, testosterone, cortisol, DHEA-S, 11-OH progesterone, bone age ???
- d. Electrolytes, testosterone, DHEA-S, 17-OH progesterone, cortisol, bone age
- e. CT brain, kidney function, bone densitometry

ans:c

A 60-year-old man recently treated for renal tuberculosis, presents with weight loss, diarrhea, anorexia, and hypotension and is noted to have hyperpigmented buccal mucosa and hand creases. ONE of the following is discriminating investigations which is useful in diagnosis :

- a- Stool for ova, cysts and parasites.
- b- Full blood count.
- c- thyroid function test
- d- Plasma ACTH and Cortisol
- e- Blood cultures.

ans:d

These tests are useful in diagnosing adrenal insufficiency. In Addison's disease, cortisol levels will be low, while ACTH levels are usually elevated due to lack of negative feedback from cortisol

One of the following is not a feature of Addison's disease Select one:

- a. Hyperpigmentation
- b. Eosinophilia
- c. Hypotension
- d. Hyperglycemia
- e. Depression

ans:d

A 52-year-old man presents to accident and emergency after collapsing at home. He appears pale on appearance with cold extremities. Blood pressure is 97/73 mmHg, heart rate 110 bpm, temperature 36.9°C and an ECG shows normal findings. Blood culture and urine culture are negative for any findings. He reports returning from 10 days holiday break abroad, but forgot to take his medication for Crohn's disease with him. The most likely one diagnosis is?

- a. Addisonian crisis
- b. Sepsis
- c. Myocardial infarction
- d. Abdominal aneurysm rupture
- e. Nelson's syndrome

ans:a

Pt come with presentation of Addison Dx by :

ACTH stimulation test ?

Best diagnostic test for Addison's :

Synacthen ACTH test ??!

In Addison's disease one is true:

- a. Nausea and vomiting are early symptoms
- b. ? ...

In Addison disease, one is correct :

- a. Hyperpigmentation of the gums and skin is secondary to the increased release of prolactin hormone...
- b. Postural dizziness is a common feature in the history of a patient with Addison disease ?
- c. Normokaleimia is the rule unless there is recurrent vomiting
- d. The ACTH level is normal in the later stage of disease
- e. Hemorrhage into the adrenals is the most common cause

ans:b This deficiency leads to hypotension (low blood pressure), which can result in postural dizziness (orthostatic hypotension) when a person changes position from lying down or sitting to standing

ADRENAL INSUFFICIENCY & HYPOPITUITIRIS

• All the following are causing hypokalemia Except.

- a- Conn's syndrome
- b- Addison's disease
- c- B-agonist (salbutamol) therapy
- d- Alkalosis
- e- Thiazide diuretics

ans:b

• One of the following is wrong :

Secondary adrenal insufficiency causes skin hyperpigmentation

• It's not a cause of hypokalemia :

adrenal insufficiency

• adrenal insufficiency wrong >

metabolic alkalosis

• 26-year-old male patient is brought to the ER unconscious. He is diagnosed by the consultant as a case of adrenal crisis. What first step of management you will order the nurse assisting you? Select one:

- a. Administer IV normal saline bolus
- b. Administer IV hydrocortisone
- c. Administer mineralocorticoids
- d. Administer IV glucose
- e. Administer V antibiotics

ans:a

• Treatment of hyperkalemia include all the following Except.

- a- i.v calcium gluconate
- b- i.v salbutamol
- c- i.v soluble insulin and glucose
- d- i.v hydrocortisone
- e- hemodialysis

ans:d

• Not in Treatment of SIADH: Diuretics

- A. Fludrocortisone
- B. Salt tablets
- C. Fluid restriction

ans:a Fludrocortisone is not commonly used in the treatment of SIADH. It's typically used to treat conditions that involve adrenal insufficiency or certain types of low blood pressure (hypotension). Therefore, it is not appropriate for the treatment of SIADH.

* An 18-year-old woman is evaluated for primary amenorrhea. Her cognitive function is normal, and she is not sexually active. Her personal and family medical history is unremarkable. She takes no medications. On physical examination, temperature is 36.1 °C (97.0 °F), blood pressure is 110/70 mm Hg, pulse rate is 72/min, and respiration rate is 16/min; BMI is 20. Her height is 147 cm (58 in). Physical examination and secondary sex characteristics are normal, with Tanner stage IV breast and pubic hair development. Pregnancy testing is negative. On subsequent laboratory studies estradiol level was undetectable, serum follicle-stimulating hormone level is 72 mU/mL (72 U/L), and serum luteinizing hormone level is 46 mIU/mL (46 U/L). Which of the following is the most appropriate management?

- a. Initiate estrogen and progestin therapy
- b. Measure serum prolactin
- c. Measure thyroid-stimulating hormone
- d. Perform pituitary MRI
- e. Measure serum FSH and LH

ans:a

ADRENAL INSUFFICIENCY & HYPOPITUITIRISM

*A 58 year-old man with a past history of a parathyroidectomy for primary hyperparathyroidism is now in your office complaining of headaches worse in the AM (made worse by a small MVA he credits to a loss of peripheral vision). You plan to?

- Send to the Emergency Department for an immediate CT head
- Check his calcium to ensure there's no remaining parathyroid tissue
- Check for a pheochromocytoma (which you know causes H/As) because you are concerned he has MEN I syndrome
- Check for a homonymous hemianopia because you are worried about a pituitary tumor
- check for a bitemporal hemianopia because you are worried about a pituitary tumor

ans:e

* Commonest pituitary Tumor .. **prolactinoma** / commonest hormone .. **prolactin**

Not found in Addison disease??

Metabolic alkalosis

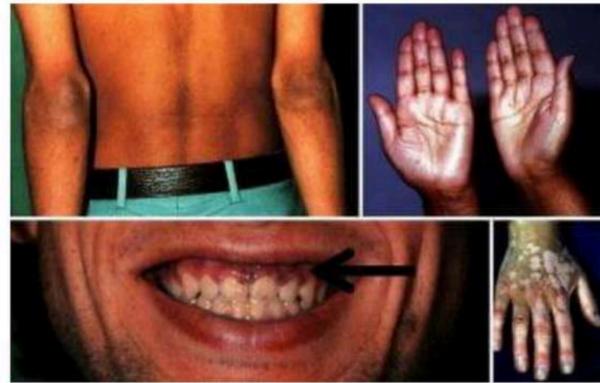
All true about pseudohypoparathyroidism except??

Normal Ca normal phosphate

Mini osce

Patient with hypotension and hyperpigmentation

- what is your diagnosis? **عليه اختلاف**
(Addison disease) or (adrenal crisis ,, 100% with hypotension)
- give me 3 lab abnormality you will see in this patient ?
(hypo Na ,hyper K ,hypoglycemia)
- what lab investigation you will order to confirm your diagnosis? (ACTH stimulation test)
- give me 2 treatment for this patient? (Mineralocorticoid / corticosteroids)



Q4) a 30 year old diabetic patient comes to your clinic complaining of headache , weakness and dizziness , during inspection you see the following findings which are showed with these images .

What is your diagnosis based on these findings ?

- Addison disease (hyperpigmentation of the skin and mucous membranes)
- DKA

what you would not see in his lab test ?

- Hypernatremia (cuz with Addison disease you always see Hyponatremia)



Q2 : this patient came to ER ,
extremely fatigue , confused
with BP 90/50 , so How To
manage and Diagnose ?

-100 mg Hydrocortisone

- The diagnosis will be done by
combination of Hyperkalemia ,
Hypernatremia , Hypotension
and Hypercalcaemia .

We can't order ACTH
stimulation test in ER situation



Diagnosis :

adrenal insufficiency (addisons disease)



Q1 \ what is the diagnosis?

Addison disease (primary adrenal insufficiency)

Q2 \ what are the findings in hematological analysis?

- 1- eosinophilia
- 2- lymphocytosis
- 3- neutropenia

Q3 \ mention 2 line of management?

- 1- hydrocortisone
- 2- fludrocortisone

Patient present with hyperpigmentation and signs of
hypotension



DIABETES INSPIDUS & DM WITH COMPLICATION

A 48-year-old woman returns for a follow-up visit for management of type 1 diabetes mellitus. She reports

doing well since the last visit. Overall, she believes that most of her blood glucose levels are at goal, but is concerned about occasional episodes of hyperglycemia occurring in the morning before breakfast. She eats a bedtime snack every night that is not covered with mealtime insulin. Review of her blood glucose log demonstrates morning fasting blood glucose values from 80 to 190 mg/dL (4.4–10.5 mmol/L). Her other premeal and bedtime values range from 100 to 120 mg/dL (5.5–6.7 mmol/L). She exercises two to three times per week in the evening. Medical history is significant for hypertension and hyperlipidemia.

Medications are insulin glargine, insulin lispro, ramipril, simvastatin, and aspirin. On physical examination, blood pressure is 130/72 mm Hg and pulse rate is 67/min. BMI is 24. The remainder of the examination is unremarkable. Results of laboratory studies show a hemoglobin A1c level of 6.9% and serum creatinine level of 1.0 mg/dL (88.4 μmol/L). Serum electrolytes are normal. Which of the following is the most appropriate management of this patient's occasional fasting hyperglycemia?

Select one:

- a. Add insulin lispro at bedtime
- b. Add metformin
- c. Increase insulin glargine dose
- d. Measure 3 AM blood glucose level
- e. Continue current regimen

ans:d

• A 74-year-old woman is evaluated in the emergency department for several hours of altered mental status. She is from out-of-state and is visiting with relatives. One of her young relatives was recently ill with gastrointestinal symptoms. The patient developed anorexia 3 days ago and vomiting 2 days ago. She has been unable to tolerate any liquid or solid foods for the last 24 hours. Medical history is significant for type 2 diabetes mellitus, hypertension, hyperlipidemia, and hypothyroidism. Medications are aspirin, lisinopril, glimepiride, levothyroxine, and atorvastatin. Her last dose of medications was 48 hours ago. On physical examination, her temperature is 37.5 °C (99.5 °F), blood pressure is 115/65 mm Hg, and pulse rate is 95/min. She is arousable but confused. Mucous membranes are dry. Her neck is supple. Cardiac examination reveals no murmurs. Her chest is clear to auscultation. Bowel sounds are present, and mild tenderness to palpation is noted throughout the abdomen. There is no rebound or guarding. There are no focal neurologic deficits. Laboratory studies are pending. Which of the following is the most likely cause of this patient's altered mental status?

Select one:

- a. Cerebrovascular accident
- b. Hypoglycemia
- c. Hypothyroidism
- d. Statin toxicity
- e. Dehydration related hypotension and hypoperfusion

ans:e

• Which of the following studies is most sensitive for detecting diabetic nephropathy?

- a. Serum creatinine level
- b. Creatinine clearance
- c. Urine albumin
- d. Glucose tolerance test
- e. Ultrasonography.

ans:c

• -All of the following are indications for the use of insulin instead of oral hypoglycemic agents except one

Select one:

- a. Diabetic retinopathy
- b. Diabetic nephropathy
- c. Diabetic foot
- d. A 46-year-old male with HbA1C 10.5% despite 2 years of treatment with oral agents
- e. A 40-year-old female newly diagnosed type 2 DM with no other medical illness

ans:e

patient with DM, when can I retest HBA1C is

- a. 6 months
- b. 3 weeks
- c. 4 months

Ans: C

DIABETES INSPIDUS & DM WITH COMPLICATION

• In the treatment of Type I Diabetes, which of the following is true?

- a. Sulfonylureas are useful as an adjunctive therapy to insulin
- b. Most patients are adequately controlled with one type of insulin (non-mixed) only
- c. Once diagnosed with Type I, patients must immediately be assessed for retinopathy
- d. During periods of illness or infection, patients may require additional insulin
- e. The most common initial presentation is visual disturbance

ans:d

• Which of the following is true with respect to diabetes and kidney disease?

- a. Primarily affects the tubules
- b. Earliest sign is decreased GFR
- c. Microalbuminuria is a late sign of DM nephropathy
- d. Threshold for dialysis is same as other CRF patients
- e. BP control slows progression of DM nephropathy

ans:e

• diabetic patient type 1 had kussmaul breathing, what most likely happen to him ?

Answer: DKA

• diabetic patient type 1 missed a meal what will happen to him ?

Answer: DM type 1 patient take insulin so missed a meal will cause hypoglycemia

• Diabetes except

- first neurological manifestation is muscle weakness

• Wrong or right about diabetic retinopathy

- a. Hard exudate are the first to appear
- b. Hard exudates result from retinal infarction
- c. Hard exudate carry worst prognosis than soft exudate
- d. None of the above

ans:d

• Worldwide, the most common cause of renal failure is?

A. Diabetes

• Wrong about polycystic ovarians syndrome:

- A. High LH/FSH ratio
- B. Acanthosis nigricans
- C. Acne
- D. Hypertension.

Answer : d ,not from criteria

Answer: according to Wikipedia, Women with PCOS are at risk for the following: ... acanthosis nigricans
Ehrmann et al1 reported recently that 33.4% of US women with PCOS exhibit symptoms of the metabolic syndrome, such as increased hyperglycemia, insulin resistance, and dyslipidemia, although this percentage varies depending on the cohort studied. Frequently these young women exhibit hypertension as well.

Despite the list of characteristics that typically accompany PCOS, the exact mechanism(s) responsible for hypertension in women with PCOS is controversial. Many of the symptoms associated with PCOS have been shown to also be associated with increases in blood pressure, such as increases in body mass index and the presence of metabolic syndrome, with its accompanying insulin resistance and type 2 diabetes.

<http://hyper.ahajournals.org/content/49/6/1220.full>

• All of the following is true about diabetic nephropathy in IDDM except:

- a. Microalbuminuria is seen within 5 years from onset
- b. Usually preceded by retinopathy
- c. Thickening of basement membrane is a ??? factor determining progressing of disease
- d. It requires kidney transplant
- e. More common in diabetic who have siblings with diabetic nephropathy

ans:d

DIABETES INSPIDUS & DM WITH COMPLICATION

• A diabetic patient was diagnosed with new hypertension, best management:

- A. Thiazide
- B. Enalapril
- C. Furosemide

ans:b Enalapril is an ACE inhibitor, which is considered a preferred first-line antihypertensive medication in patients with diabetes. ACE inhibitors help to control blood pressure and offer additional benefits such as renal protection in diabetic patients. They reduce the progression of kidney disease, which is a common complication in diabetes.

• Best first management in a 22-year-old presenting to the ER with DKA:

- A. Insulin + Bicarbonate + Saline
- B. Saline + Insulin
- C. Insulin
- D. Saline

Answer: D.

Fluid replacement — Initial fluid therapy in DKA and HHS is directed toward expansion of the intravascular volume and restoration of renal perfusion [16]. Adequate rehydration with subsequent correction of the hyperosmolar state may result in a more robust response to low dose insulin therapy [17,18].

The average fluid loss is 3 to 6 liters in DKA and up to 8 to 10 liters in HHS, due largely to the glucose osmotic diuresis (table 2) [1,2,8,10]. In addition to inducing water loss, glucosuria results in the loss of approximately 70 meq of sodium and potassium for each liter of fluid lost. The aim of therapy is to replete the extracellular fluid volume without inducing cerebral edema due to too rapid reduction in the plasma osmolality. (See 'Cerebral edema' below and "Treatment and complications of diabetic ketoacidosis in children", section on 'Cerebral edema'.)

Fluid repletion is usually initiated with isotonic saline (0.9 percent sodium chloride). This solution will replace the fluid deficit, correct the extracellular volume depletion more rapidly than one-half isotonic saline, lower the plasma osmolality (since it is still hypoosmotic to the patient), and reduce the serum glucose concentration both by dilution and by increasing urinary losses as renal perfusion is increased [16,19]

Intravenous regular insulin — After an initial infusion of isotonic saline to increase insulin responsiveness by lowering the plasma osmolality [17,18], the only indication for delaying insulin therapy is a serum potassium below 3.3 meq/L, since insulin will worsen the hypokalemia by driving potassium into the cells. (See 'Potassium depletion' below.)

ans:d

• All of the following are associated with hypokalemia and alkalosis, except:

- a. Bartter syndrome (???) [Yes Hypokalemia + alkalosis a disorder due to a defect in active chloride reabsorption in the loop of Henle; characterized by primary juxtaglomerular cell hyperplasia with secondary hyperaldosteronism, hypokalemic alkalosis, hypercalciuria, elevated renin or angiotensin levels, normal or low blood pressure, and growth retardation; edema is absent. Autosomal recessive inheritance, caused by mutation in either the Na-K-2Cl cotransporter gene (SLC12A1) on chromosome 15q or the K(+) channel gene (KCNJ1) on 11q.
- b. Furosemide
- c. Diabetes (If they are talking about DKA Hypokalemia and acidosis, so this should be the answer)
- d. Nasogastric tube suction (loss through upper GI of K and Hydrogen)
- e. Thiazides

ans:c

• All of the following may cause renal papillary necrosis, except:

- a. DM
- b. Analgesic abuse
- c. Sickle cell anemia
- d. pyelonephritis
- e. hypertension

Answer E: Any condition that involves ischemia can lead to renal papillary necrosis. The four most significant causes are sickle cell disease or trait, analgesic use, diabetes mellitus, and severe pyelonephritis.[2] A mnemonic for the causes of renal papillary necrosis is POSTCARDS: pyelonephritis, obstruction of the urogenital tract, sickle cell disease, tuberculosis, chronic liver disease, analgesia/alcohol abuse, renal transplant rejection, diabetes mellitus, and systemic vasculitis. Often, a patient with renal papillary necrosis will have numerous conditions acting synergistically to bring about the disease. [3][4]

DIABETES INSPIDUS & DM WITH COMPLICATION

• All of the following electrolyte and acid-base disturbances may be seen in a patient with diabetic ketoacidosis upon presentation, except:

- a. Hyponatremia
- b. Normal anion gap metabolic acidosis
- c. Hyperkalemia
- d. Hyperphosphatemia
- e. Increased urea

Answer: B (DKA causes high anion gap metabolic acidosis)

• All the following are true about side effects of anti-diabetic agents Except.

- a- metformin carries a risk of lactic acidosis.
- b- sulphonylurea is used safely pregnancy
- c- glitazones may cause prominent fluid retention
- d- insulin may cause lipohypertrophy
- e- acarbose causes diarrhea

ans:b

• Causes of hypoglycemia in diabetes include all the following Except.

- a- no daily exercise.
- b- unrecognized other endocrine diseases like Addison's disease.
- c- missed, delayed or inadequate meal
- d- gastroparesis
- e- factitious and deliberately induced.

ans:a

• One of the following is true about management of diabetes mellitus.

- a. the latest guideline recommended HbA1C to be less than 7%.
- b. post prandial blood sugar up to 200 mg/dl is accepted.
- c. fasting blood sugar should be less than 100 mg/dl in all patients.
- d. LDL-cholesterol up to 120 mg/dl is acceptable in diabetics.
- e. blood pressure of 145/95 mm Hg is acceptable in diabetics.

ans:a

• One of the following is true about complications of diabetes mellitus :

- a. HbA1C is the most studied marker for diabetes mellitus complications.
- b. fasting blood sugar does not attribute to HbA1C level.
- c. Erectile dysfunction is solely (only) due to diabetic vasculopathy.
- d. hard exudates are more serious than soft exudates in diabetic retinopathy.
- e. serum creatinin is the early biochemical marker to change in diabetes nephropathy.

ans:a

• A 55 year old male has progressive CKD due to type II Diabetic Nephropathy & hypertension . His Cr clearance is 23 ml/ min , his serum Cr is 3.1 mg/dl . He has just returned from an introductory educational session regarding dialysis & transplant options . He asks your opinion about the best options

Which of the following offers the best prognosis for this patient :

- A) NIPD
- B) Hemodialysis
- C) Renal transplant
- D) Combined renal & pancreas transplant
- E) CCPD

ans:c

• All the following are true about Diabetic Nephropathy except :

- a) More likely to occur if patient has siblings with Nephropathy
- b) More severe in black
- c) Occurs within 5 years in I DDM
- d) It needs 15 years to progress into ESRD after start of overt proteinuria
- e) Mostly preceded by Diabetic Retinopathy

ans:d

DIABETES INSPIDUS & DM WITH COMPLICATION

• A 67 year old man with a 4 year history of NIDDM is admitted to the hospital with DVT in his calf . He is placed at bed rest & given a diet for diabetic patients & started on heparin therapy . He is treated with his chronic antihypertensive regimen of Captopril , 25 mg, twice daily

Labs :
Na 138 meq/L, K 4.6 meq/L , HCO₃ 25 meq/L , Cr 2 mg/dl stable for 2 years , 5 days later Blood pressure remained stable 135/85 mmHg , but labs became :

glucose 225mg/dl, Na 135 meq/L , k 7 meq/L , HCO₃ 21 meq/L , Cr 2.4 mg/dl , TTKG 4 .

What is the most likely cause of hyperkalemia ?

- A) Acute adrenal hemorrhage
- B) Acute Renal failure
- C) Hyperglycemia
- D) Pulmonary embolus
- E) Hypoaldosteronism

ans:e

• After 4 years on dialysis , a 42 year old HCV positive black patient received a living unrelated transplant from his wife . He is treated with Tacrolimus , Sirolimus & prednisone . Four months post transplant he has high blood sugar ranging 200- 300 mg/dl . He has no family history of diabetes . His BMI is 35 . His risk factors for post transplant diabetes include all Except :

- A) Tacrolimus therapy
- B) Increased BMI
- C) HCV infection
- D) Sirolimus therapy
- E) Ethnicity

Ans:D. Sirolimus therapy: While sirolimus can have various side effects, including potentially impacting glucose levels, the evidence for its association with post-transplant diabetes is not as strong as the other factors listed. Tacrolimus therapy is generally considered a more significant risk factor for diabetes post-transplant than sirolimus.**

• A 35-year-old man with type 1 diabetes mellitus, is evaluated for recent onset morning hypoglycemia. For the last 10 days his morning blood glucose has ranged from 220 mg/dl-300 mg/dl. He has experienced nightmares recently. Which of the following is best explanation for his morning hyperglycemia.

- a- Diabetic nephropathy
- b- Under treatment with insulin
- c- Overtreatment with insulin
- d- Diabetic neuropathy
- e- Hypothyroidism.

ans:b

overtreatment with insulin, also known as the "Somogyi effect." This occurs when an individual with diabetes experiences a period of nighttime hypoglycemia, which leads to the release of counter-regulatory hormones (e.g., glucagon, adrenaline, cortisol). These hormones cause the liver to release glucose into the bloodstream, resulting in morning hyperglycemia.

• 60 year old male known to have Diabetes for 10 years and is on Enalapril 10 mg 1x2 , presented to ER because all his peripheral extremities became paralysed , Labs K 8.0 meq /L , Cr 1.0 mg/dl. Which of the following should be used first in the management of this patient :

- a) NAHCO₃ Iv
- b) Ventolin nebuliser
- c) Glucose + insulin Iv
- d) K exalate (Na polystyrene Sulfonate)
- e) Ca gluconate Iv

ans:e

• All the following are true for a Diabetic with ESRD except

- a) Oral hypoglycaemic agents should be stopped
- b) First year post transplant survival is the same as in the general population
- c) More prone to hypotension during HD than other patients
- d) They have higher Insulin requirements
- e) PD is associated with increase in Triglycerides level

ans:d

DIABETES INSPIDUS & DM WITH COMPLICATION

• 20 year old male has a LRD kidney transplant 2 years ago, he is not known to be Diabetic nor Hypertensive. His medications are Tacrolimus 3 mg 1x2, prednisone 5mg 1x2, MMF 1 gm 1x2, Labs: FBS 400 mg/dl, Cr 1.0 mg/dl, Urea 35 mg/dl, Tacrolimus level 12. The next step in managing his Diabetes other than start him on treatment and re checking his sugar level is:

- a) Stop Prednisone
- b) Decrease MMF to 500 mg 1x2
- c) Stop Tacrolimus
- d) Stop MMF, and increase Tacrolimus
- e) Decrease Tacrolimus to 2 mg 1x2

ans:e

• A 65-year diabetic and hypertensive patient is complaining of symptomatic aorto-iliac occlusive disease. Which of the following therapeutic modality is not applicable on him?

- A) Aortofemoral bypass
- B) Aortoiliac endarterectomy
- C) Extra anatomic by pass
- D) Angioplasty/stenting
- E) Lumbar sympathectomy.

ans:e

• the following are true in diabetes and CAD except:

- a) Mortality from CVD is 2-8 folds higher in people with diabetes than in those without.
- b) Thiazolidine are Synthetic ligands of Newer transcription factor PPAR γ
- c) Recent meta analysis questioned the cardiac safety of rosiglitazone by decreasing LV contractility.
- d) In recent studies ENHANCED and ACCORD study –mortality has increased in diabetes in those with intensively lowering blood glucose.
- e) Thiazolidinediones enhances insulin sensitivity in patients with high risk of CV events.

ans: c

• patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 1 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

- A. Latent phase
- B. Hyperfiltration
- C. End-stage renal failure
- D. Overt nephropathy
- E. Microalbuminuria

ans:b

• patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 4 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

- A. Microalbuminuria
- B. End-stage renal failure
- C. Latent phase
- D. Hyperfiltration
- E. Overt nephropathy

ans:e

• patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 3 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

- A. Overt nephropathy
- B. Microalbuminuria
- C. Latent phase
- D. End-stage renal failure
- E. Hyperfiltration

ans:b

• DKA all except..

No change in anion gap

• All are true about DKA except

(high insulin)

DIABETES INSPIDUS & DM WITH COMPLICATION

• patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 2 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

- A. Microalbuminuria
- B. End-stage renal failure
- C. Latent phase
- D. Hyperfiltration
- E. Overt nephropathy

ans:c

• In the course of DKA, serum potassium levels?

- a. Remain unaffected
- b. Can appear normal but total body potassium may actually be low
- c. Can appear normal but total body potassium may actually be high
- d. Will naturally be corrected by insulin administration
- e. Can't be corrected if the patient presents late

ans:b

• pt of DM takes metformin and sulfonylurea, he complains of hypoglycemia & congestive heart failure, how to adjust treatment?

Stop sulfonylurea & give SGLT2 inhibitor

• wrong about DM :

Can be diagnosed by a single random glucose tolerance test

• A 50 year old obese woman is found to have DM. Diet alone can not achieve adequate glycemic control. Which of the following drug would be the treatment of choice?

- a- Gliclazide
- b- Metformin
- c- Glibenclamide
- d- Insulin
- e- Rosiglitazone

ans:b

• Causes glomerulosclerosis :

DM nephropathy

• DM drug which causes weight loss : ???

• Elderly patient with HF, what drug deteriorates her condition :

pioglitazone

• M.C cause of End stage renal failure. .

DM

• Longest insulin half life :

Glargine

• Fasting blood sugar : 120, postprandial blood sugar : 180, what is true :

impaired FBS & postprandial blood sugar tolerance

• DM, Correct :

Fasting blood glucose < 126

• DM ..

insulin not used firstly for type 2DM

• One of the following can diagnose DM:

- a. Fasting blood sugar ≥ 100
- b. Random blood sugar ≥ 140
- c. Random blood sugar ≥ 200 with typical signs and symptoms

ans:c

DIABETES INSPIDUS & DM WITH COMPLICATION

patient with type2 diabetes had hyperglycemic hyperosmolar syndrome, which is least associated with HHS readings:

- A) PH 7.38
- B) Ketons +1

ans:b

strong family hx of DM
-**MODY**

HSS

No ketone bodies in urine dipstick

GLP1 one is wrong

high levels in DM type 2 pt

Patient with DM he talk and then he had GI symptoms (flatulence) what the drug that may do this symptoms **Metformin**

Responsible for ketone production during DKA ?

- A -Exchange with hydrogen
- B -Lipolysis

Answer: B

Responsible for ketone production during DKA ?

- A -Exchange with hydrogen
- B -Lipolysis

ans:b

Female patient presents with tremor, palpitation, diaphoresis, fatigue and confusion, he mentioned that she has increased in weight 20kg for the last month, her blood glucose is 2.1 mmol/L, what is the best next step?

- A) Insulin and C-peptide levels during hypoglycemic episode
- B) Plasma glucagon level

ans:a

Insulinoma			
	- Islet-cell tumor that secretes insulin - Presents as fasting hypoglycemia, with neuroglycopenic/hypoglycemic symptoms	- High insulin during period of induced hypoglycemia (72 hour fast) - Localization: CT, MRI	- Surgical resection - Diazoxide (↓ insulin secretion if refractory disease or not undergoing surgery)

Which of the following is not diagnostic for HHS?

- A) Plasma osmolarity is 310
- B) +1 ketone in urine
- C) Blood glucose is 800
- D) HCO₃ 20
- E) PH 7.34

ans:a

A patient with fasting blood glucose of 6.5 mmol/L, what his FBG indicates?

- A) Impaired fasting glycemia
- B) Suggest DM
- C) Impaired glucose tolerance
- D) Normal

ans:a

Which of the following is diagnostic for DM?

- A) Asymptomatic patient with fasting blood glucose of 7.6 mmol/L for one occasion
- B) Asymptomatic patient with fasting blood glucose of 6.3 mmol/L for two occasions
- C) Asymptomatic patient with HbA1C of 6%
- D) Symptomatic patient with random blood glucose of 12 mmol/L for one occasion
- E) Symptomatic patient with normal blood glucose

ans:d

(To convert from mmol/L to mg/dL multiplied the value by 18)

DIABETES INSPIDUS & DM WITH COMPLICATION

What is the mechanism of ketone production during DKA?

- A) Exchange with H^+
- B) Lipolysis

ans:b

Correct about DM?

- A) Concordance of T2DM in twins is higher than T1DM
- B) It's thought to be autosomal dominant

Ans:b

Which type of nephrotic disease we don't use corticosteroids?

- 1. Diabetic nephropathy
- 2. FSGS
- 3. RPGN
- 4. DPGN

Ans:a

Minie osce

Blood test result showing very high blood sugar and elevated Creatinine .

•What are abnormal findings in this test ?
Very high blood glucose and creatinine .

•What is the diagnosis ?
Diabetic nephropathy

•After 10 years the patient comes with this pic (1) , what is the diagnosis ?

•After 15 years the patient comes with this pic (2) , what is the diagnosis ? And what is the treatment ?
I guess nephrotic , control DM by hypoglycemic agent and insulin , fluid restriction , diuretics , steroid and albumin



pic (2)



14-19 year old female patient is presented to the emergency department with abdominal pain of 1 day duration along with nausea , vomiting and generalized Weakness . Her mother reports 3 days of dysuria and suprapubic pain treated At home by amoxicillin without improvement . The underlying cause of her presentation is most likely ?

- a. Extensive hyperosmolarity
- b. Constipation
- c. Starvation
- d. Urinary tract infection
- e. Missed insulin dose

Physical exam is remarkable for very rapid breathing.

Bp 100/60 pulse 120 SpO₂ 99% T 36.5
RR 28

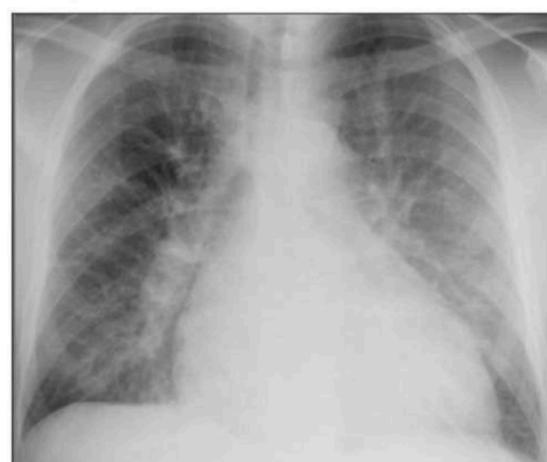
pH 7.20 pCO₂ 22 HCO₃ 11 pO₂ 93

Na 135 K 4.2 Cr 100

Glucose 40 mmol/L

Q4 - A 70 year old male with acute onset of shortness of breath, all of the following can cause this presentation except?

- a. Myocardial infarction
- b. Congestive heart failure
- c. Uncontrolled hypertension
- d. Diabetic ketoacidosis
- e. Chronic kidney disease



DIABETES INSPIDUS & DM WITH COMPLICATION

• Wrong about DM:

A. Goal of HbA1C should be less than 6.8%

• Criteria which is used to diagnose DM is:

A. Glycylated haemoglobin

B. Fasting plasma glucose \geq 126 mg/dL.

Ans:

• Hypernatremia in the presence of uncontrolled DM suggests One of the following:

a) Salt overload ??

b) Water depletion ??

c) Hyperlipemia

d) Increased tubular sodium resorption

e) Ketoacidosis

ans:

• 83 year old male who has DM , CHF,CRI is admitted to hospital with volume overload & Cr 4.0 mg/dl (baseline 2.3 mg/dl) . He was treated by Iv diuretics , post voiding residual was 250 ml after foleys catheter was inserted . He was discharged 2 days later with Cr 3.0 mg/dl . One week later he came to OPD , Cr is 3.5 mg/dl , ultrasound shows mild bilateral hydronephrosis . Which of the following would best predict the effect of the patient bladder outlet problem on kidney function :

a) Serum PSA

b) Serum Cr after several days with foleys catheter ??

c) Kidney size on U/S

d) Retrograde urography

e) Renal Scan

ans:

• All are true about DKA except

(high insulin)

• pregnancy women came for follow up , her last pregnancy complicated by GDM & resolved after pregnancy, what is your next step?

Order oral glucose tolerance test

• Which one of the following is not a recognised risk factor for the development of diabetic nephropathy?

A. Poor glycaemic control

B. Smoking

C. Male sex

D. Low dietary protein

E. Hypertension

ans:d

Diabetes Insipidus	SIADH
- High Urinary Output	- Low Urinary Output
- Low Levels of ADH	- High Levels of ADH
- Hypernatremia	- Hyponatremia
- Dehydrated	- Over Hydrated
- Lose too much fluid	- Retain too much fluid
* Both will present with excessive thirst	

DI

• Not a cause of nephrogenic DI ?

A,Cisplastin ?

B, Demeclocylin

c,Sjogren syndrome

D,Hyper ca hypo k

Diabetes Insipidus	SIADH
<ul style="list-style-type: none"> There is not enough ADH in the body Without ADH to tell the body to hold onto water, the kidneys produce HUGE amounts of urine This leads to fluid volume deficit Hypotension Shock 	<ul style="list-style-type: none"> The body is making too much ADH With too much antidiuresis, the kidneys stop excreting water and HOLD ON to it! Decreased urine output Retention of water in the intravascular space ONLY water is retained... NO sodium Body remains euvolemic

ans:

• Syndrome of inappropriate ADH secretion is characterized by all of the following, except:

a. Urine osmolarity more than 100

b. Hypoosmolarity of the serum

c. Urine Na+ more than 40

d. Normovolemia and hyperuricemia

ans:d

ACROMEGLALY

- One of the following incorrect in acromegaly:

Atrophy of sweat glands

- Wrong about Acromegaly :

exophthalmous

- Acromegaly not associated with??!

Osteomalacia

- Correct about acromegaly:

a. IGF-1 is the gold standard for diagnosis

b. Cardiovascular is main cause of mortality

- Adult growth hormone deficiency is associated with all except?

a. Reduced exercise capacity

b. Central adiposity

c. Spontaneous hypoglycaemia

d. Peripheral oedema ????????

e. Deranged metabolism of lipids

Minie osce

Q1 \ mention 2 findings from picture?

1- large chin

2- skin tags

3-large face & ears

Q2 \ mention 2 investigation you should order?

1- oral glucose suppression test

2- IGF-1 level

Q3 \ mention 1 life threatening complication?

Cardiomegaly and heart failure



THYROID DISEASE

• clinical scenario of thyrotoxicosis with low TSH level what expect to see in this pt?

Exophthalmous

• A 54-year-old woman is evaluated because of fatigue. Although she follows a daily 1400-kcal diet and exercises 3 to 4 nights per week for 30 minutes, she has gained 2.3 kg (5.0 lb) in the last month. She has hypercholesterolemia requiring statin therapy. Her mother was diagnosed with hypothyroidism shortly after the birth of her last child. On physical examination, blood pressure is 145/90 mm Hg, pulse rate is 80/min, and BMI is 25. The skin is dry. The thyroid is mildly enlarged with a diffusely nodular texture. No discrete thyroid nodules are palpated. Reflexes are normal. TSH 6.5 mU/L T4 0.9 ng/dL Thyroid peroxidase antibody positive Similar results for TSH and T4 were obtained 4 months ago. Which of the following is the most appropriate next step in management? Select one: a. Initiate levothyroxine therapy b. Measure thyroid-stimulating immunoglobulins c. Repeat serum TSH measurement in 12 months d. Schedule thyroid radioactive iodine uptake and scan e. Measure serum T3 and calculate the T3:T4 ratio **ans:a**

• Which of the following is FALSE about Graves' disease? Select one:

- a. Low TSH, High FT4 and/or FT3
- b. Diagnosis is mainly made by the symptoms including eye symptoms and signs
- c. Family history is common
- d. Depression and weight gain are common symptoms
- e. It is associated with autoimmune disorders

ans:d

• A patient complains of a non-tender mass over the thyroid region on the left side of her neck. Concerned about a thyroid disorder, you order the appropriate investigations. The results are as follows: TSH: 6.0, Free T4: 20.2, Thyroid antibodies: none, RAIU: No "hot" spots seen. The next investigation(s) you choose to do are?

- a. Watch and wait for 3-6 months
- b. FNA
- c. Surgical biopsy
- d. Trial of L-thyroxine therapy for 6 months
- e. Start propranolol

ans:a

• patient with weight gain what is the most appropriate test ?

- A. TSH B. T3 C. T4

ans:a

• Patient has symptoms of hypothyroid how to confirm :

(TSH)

• Correct about hypothyroidism:

- a. T4 and T3 can be normal while TSH is the first to be elevated
- b. Weight gain is not a sensitive parameter

ans:

• One is correct about hyperthyroidism

- a. high T3, normal T4 and low TSH is well known type
- b. viral infection is usually the cause of graves disease
- c. toxic MNG is most common in young males

ans:

THYROID DISEASE

• Autoimmune thyroiditis can be confirmed by ONE of the following.

- a- thyroid peroxidase antibody
- b- anti-nuclear antibody
- c- thyroid uptake resin
- d- fine needle thyroid aspiration
- e- estimation of TSH

ans:a

• A 42-year-old female presents with a recent onset of fatigue, malaise, constipation, and a 12-pound weight gain. On examination, her thyroid is firm and enlarged. What ONE laboratory test is most likely to confirm the expected diagnosis?

- a- Antithyroid antibodies
- b- Serum thyroid-stimulating hormone (TSH) measurement
- c- Serum thyroxine (T4) measurement
- d- Serum triiodothyronine (T3) measurement
- e- T3 resin uptake

Ans:b

• False statement :

- a. Hyperthyroidism can occur in Hashimoto thyroiditis
- B. Lid retraction can be in any hypothyroidism disease

ans:b

• Myxedema coma all except :

-it has mortality rate higher than thyroid storm

• A 42-year-old woman is evaluated during an annual physical examination. She feels well. She has no pertinent personal or family medical history, and she takes no medications. On physical examination, vital signs are normal. Palpation of the thyroid reveals a possible nodule in the right lobe that is not mobile with swallowing. The remainder of the gland is unremarkable, and there is no palpable cervical lymphadenopathy. Other physical examination findings are normal. Laboratory studies reveal a serum thyroid-stimulating hormone level of 1.7 pU/mL (1.7 mU/L). Ultrasound of the neck shows a right 1.5-cm hypoechoic nodule with internal microcalcifications. Which of the following is the most appropriate next step in management? Select one:

- a. CT with contrast of the neck
- b. Fine-needle aspiration of the nodule
- c. Lévothyroxine therapy
- d. Measurement of serum thyroglobulin level
- e. Thyroid scan with technetium

ans:b

• A 22 year old student is diagnosed with Grave's disease. She enquires about the long term complications of radioactive iodine, which is being considered. What side effect is most likely? Select one:

- a Hypothyroidis
- b. Hyperthyroidism
- c. Hyperparathyroidism
- d. Thyroid malignancy
- e. Recurrent laryngeal nerve damage

ans:a

• Which of the following is not associated with thyroid disease?

- a. Dermatitis herpetiformis
- b. Urticaria
- c. Porphyria cutanea tarda
- d. Vitiligo
- e. Alopecia areata

ans:c

THYROID DISEASE

• Which of the following is true of Myasthenia Gravis?

- a. In patients older than 60, A. Thymic hyperplasia is a common etiology
- b. Often associated with thyroid disease
- c. Antibodies that are produced against acetylcholinesterase
- d. Associated with small cell lung carcinoma
- e. Can lead to renal failure

ans:b

• Which of the following is associated with thyroid disease?

- a. Neurofibromatosis
- b. Vitiligo
- c. Erythema nodosum
- d. Pemphigus vulgaris
- e. Ichthyosis vulgaris

ans:b

• A 30 years old lady has history of weight gain and hoarseness of voice. On examination her pulse 60 beat per minute and pale, dry skin. The most important investigation is?

- a- ACTH
- b- Cortisol level
- c- Gonadotropin levels
- d- Insulin like growth factor
- e- Thyroid function test

ans:e

• Thyroid disease without nodule:

Hashimoto's thyroiditis

• Most common thyroid cancer :

(papillary)

• Wrong about hypothyroidism:

a. Antibodies are positive only in 70% of patients with Hashimoto's thyroiditis.

• ONE of the following is most likely diagnosis for patient with thyroid function test showing elevated serum T4 and low radioactive iodine uptake.

- a- Grave's disease.
- b- Hashimoto's thyroiditis.
- c- subacute thyroiditis.
- d- non-toxic goiter.
- e- pregnancy

ans:c

• A patient with palpitations and heat intolerance... technetium scan revealed uniform increased uptake in the thyroid, diagnosis is:

A. Graves' disease

• Best treatment of fibrillation in hyperthyroidism is:

A. Anti-thyroid drugs.

Atrial fibrillation occurs in 10 to 20 percent of patients with hyperthyroidism, and is more common in elderly patients. In one study, 8 percent of all patients and 15 percent of patients between ages 70 to 79 developed atrial fibrillation within 30 days of the diagnosis of hyperthyroidism [8]. Even subclinical hyperthyroidism is associated with an increased rate of atrial ectopy and a threefold increased risk of atrial fibrillation (figure 1) [9].

• Autoimmune thyroiditis can be confirmed by ONE of the following.

- a- thyroid peroxidase antibody
- b- anti-nuclear antibody
- c- thyroid uptake resin
- d- fine needle thyroid aspiration
- e- estimation of TSH

ans:a

THYROID DISEASE

• A 40-year old man postthyroidectomy for medullary thyroid carcinoma presents with hypertension and complains of attacks of severe headache and palpitations. He is noted to have glycosuria. Which ONE of the following is most likely cause of his hypertension?

- a- Cushing syndrome.
- b- Primary hyperaldosteronism.
- c- Essential hypertension
- d- Pheochromocytoma
- e- Polyarteritis nodosa.

ans:d

• In hyperthyroidism Atrial fibrillation is best treated with?

- a. Quinidine
- b. Digitalis
- c. Digitalis and quinidine
- d. Pronestyl
- e. Antithyroid drugs

ans:e

• A 42-year-old female presents with a recent onset of fatigue, malaise, constipation, and a 12-pound weight gain. On examination, her thyroid is firm and enlarged. What ONE laboratory test is most likely to confirm the expected diagnosis?

- a- Antithyroid antibodies
- b- Serum thyroid-stimulating hormone (TSH) measurement
- c- Serum thyroxine (T4) measurement
- d- Serum triiodothyronine (T3) measurement
- e- T3 resin uptake

ans:b

• False statement :

- A. Hyperthyroidism can occur in Hashimoto thyroiditis
- B. Lid retraction can be in any hypothyroidism disease

ans:b

• All the following can cause high prolactin level Except.

- a- prolactinoma
- b- acromegaly
- c- polycystic ovary syndrome
- d- metoprolol
- e- hyperthyroidism.

ans:e

• What is the most common cause of hypothyroidism worldwide? Select one:

- a. Autoimmune disease
- b. Graves' disease
- c. Iatrogenic causes
- d. Iodine deficiency
- e. Medication side effects

ans:d

• Cause of galactorrhea,
primary hypothyroidism

• cause of hypothyroidism ?

Auto immune or iodine def.

THYROID DISEASE

• A 74-year-old woman is evaluated in the emergency department for several hours of altered mental status. She is from out-of-state and is visiting with relatives. One of her young relatives was recently ill with gastrointestinal symptoms. The patient developed anorexia 3 days ago and vomiting 2 days ago. She has been unable to tolerate any liquid or solid foods for the last 24 hours. Medical history is significant for type 2 diabetes mellitus, hypertension, hyperlipidemia, and hypothyroidism. Medications are aspirin, lisinopril, glimepiride, levothyroxine, and atorvastatin. Her last dose of medications was 48 hours ago. On physical examination, her temperature is 37.5 °C (99.5 °F), blood pressure is 115/65 mm Hg, and pulse rate is 95/min. She is arousable but confused. Mucous membranes are dry. Her neck is supple. Cardiac examination reveals no murmurs. Her chest is clear to auscultation. Bowel sounds are present, and mild tenderness to palpation is noted throughout the abdomen. There is no rebound or guarding. There are no focal neurologic deficits. Laboratory studies are pending. Which of the following is the most likely cause of this patient's altered mental status?

Select one:

- a. Cerebrovascular accident
- b. Hypoglycemia
- c. Hypothyroidism
- d. Statin toxicity
- e. Dehydration related hypotension and hypoperfusion

ans:e

Specific for graves of the following?

- A - Lid lag
- B - Afib
- C - Pretibial myxedema

Answer: C

Patient with sever pneumonia, his thyroid function test mostly shows:

- A - Low to normal TSH, low T3, low T4
- B - high TSH low T3, T4
- C- high TSH, high T4, t3
- D - low TSH, high T3, T4

Answer : A (Its euthyroid sick syndrome came with critical illness)

management of thyroid storm

Beta blocker, propylthiouracil--- corticosteroid

A women came with excessive sweating, tremor, and nervousness, you inspect also a protruded eyes with lid retraction, what is the most likely diagnosis?

A) Graves' disease

A young male patient develops hyperthyroidism symptoms but without eye involvement, his TSH is slightly decreased with slightly T3 and T4 increased, also he has diffused painless goiter, what is the most likely diagnosis?

- A) Graves
- B) Toxic multinodular goiter ?? (Cause nodular goiter)
- C) Toxic adenoma
- D) Hashimoto thyroiditis ?? (Can cause transient hyperthyroidism initially)
- E) DeQuervian thyroiditis

Ans: b or d

Patient with sever pneumonia, his thyroid function test mostly shows:

- A) Low to normal TSH, low T3, low T4
 - B) High TSH, low T3, low T4
 - C) Low TSH, high T3, high T4
- (Euthyroid sick syndrome came with critical illness)

ans:a

Specific for Graves' disease of the following?

- A) Lid lag
- B) Afib
- C) Pretibial myxedema

ans:c

Minie osce

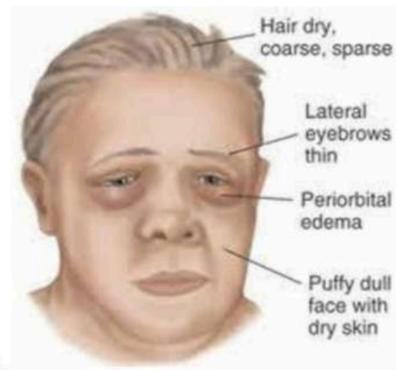
Station 2: A patient presented with fatigue, cold intolerance, weight gain ...

1) What is the diagnosis?
Hypothyroidism

1) List two signs shown in this picture?
Puffy face – periorbital edema

1) What are the investigations done to confirm your diagnosis?
TSH as primary test

Additional tests: Estimation of free T3 and T4 Test for thyroid autoantibodies Thyroid scan/ultrasonography Serum cholesterol-increase in hypothyroidism



This patient came to you complaining of condition that her neighbors also have (I don't know the relation)

•What is the diagnosis ?
Hypothyroidism

•What tests would you do to confirm diagnosis ?

TSH , T4

Thyroid US

Iodine uptake

•What is the treatment ?

Levothyroxine



Q12: Patient with enlarged non tender neck mass, fever, tremor and weight loss. (given values of low TSH and elevated T3 and T4). What is the most likely diagnosis:

- **Graves disease**
- Hashimoto thyroiditis
- Multinodular goiter
- Toxic adenoma
- Thyroid cancer

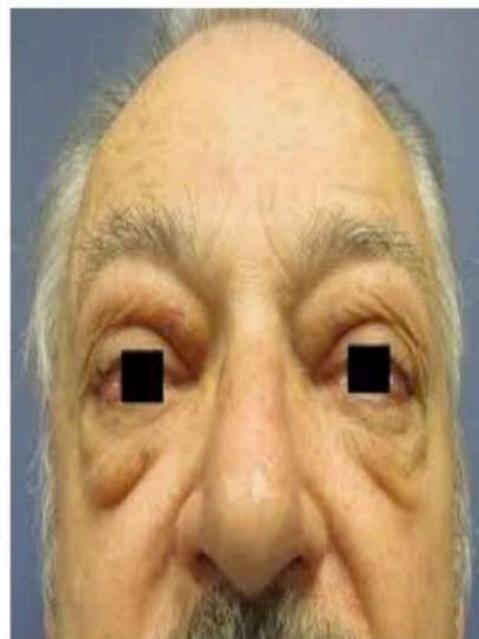


Q3: This patient with BP 130/90 , Normal Urinalysis , weight gain , Constipation

How To Diagnose ? And what is your diagnosis ?

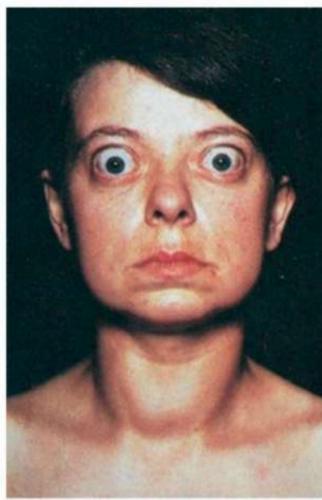
-**TSH test**

-**Myxedema**



Q13: Patient with enlarged non tender neck mass, fever, tremor and weight loss. (given values of low TSH and elevated T3 and T4). Next step to confirm diagnosis is:

- Radio Iodine uptake scan
- Thyroid US
- Fine needle aspiration



patient with fatigue , contraption...

- 1- diagnosis ?
hypothyroidism
- 2- investigations ?
TSH , T3 , T4
- 3- complication ?
bradycardia , hypotension



A 43-year-old female patient presented with a 1-year history of palpitation, fatigue, and hand tremor and weight loss

- 1) What you see in this 2 picture (exophthalmos /acropachy)
- 2) what is your diagnosis (graves disease)
- 3) give me 2 lab order for this case (T3/T4. TSH levels)



Q1 : what is the cause of this sign

Hypocalcemia

Q2 : what is your Tx?

IV calcium gluconate



Station 6

young woman with recurrent pancreatitis, kidney stones , bone pain



Fig. 5. Hyperparathyroidism—A. Granular appearance of skull in patient having renal osteodystrophy. B. Solitary "punched-out" radiolucency in calvarium represents a Brown tumor in secondary hyperparathyroidism. C. Right humerus shows coarse internal trabeculation in primary hyperparathyroidism (same case as shown in Fig. 2). D. Metastatic calcifications in hand and wrist of patient with primary hyperparathyroidism. E. Detail of calcifications adjacent to thumb (detail of 2.D).



Q1 : What is your diagnosis? **Hyperparathyroidism**

Q2 : What is the appropriate lab investigation?

PTH, Ca level