Allergy and lung disease

Asthma and lung

- ✓ **Notes: Ways to Treat asthma RESPECTIVLY : 1-Short acting beta agonist as salbutamol 2-inhaled corticosteroid 3- long acting beta agonist 4- antiinterleukin 5- oral cs(oral corticosteroid) 6-omalizumab .**
- ✓ **Note : - B1 receptor exist in heart - B2 receptor exist in lung - alpha 1 receptor exist in Blood vessels , Note: Aspirin also is contraindicated in asthma.**
- ✓ **Beta 1 antagonist should be used in caution with asthmatic patients>>> if there is no Beta 1 antagonist in choices the answer will be Beta 2 antagonist**
- ✓ **Selective B1 blockers can be used in asthma & nonselective beta blockers are contraindicated in asthma**

- ✓ **N.B**:1- **Acute asthma** …. **B2 agonist** "e.g.: **Salbutamol**"
- ✓ (Short acting selective β2 agonist: as Salbutamol, terbutaline, albuterol, pirbuterol)
- ✓ **2-Chronic asthma** …. **Corticosteroids (anti-inflammatory)** (Beclomethasone, prednisone, hydrocortisone) Inhibit Ag-Ab reaction, inhibit release of inflammatory mediator
- ✓ **3-moderate to severe** asthma **Omalizumab**

- ✓ N.B: **Bronchodilators** are :
- ✓ **Mixed agonist** ((α1 "blood vessels constriction", β1 "stimulation of cardiac muscle" & β2 "dilatation of lung smooth muscles")) : e.g. **adrenaline** "**epinephrine"**
- ✓ .II- B2 Agonist: 1- **Non selective** β **agonist** (β1, β2) as: **isoprenaline**
  - 2- **Short acting selective β2 agonist**: as Salbutamol, terbutaline, albuterol, pirbuterol
  - 3- **Long acting selective β2 agonist**: as Salmeterol, formoterol
- ✓ **cholinergic antagonists**: e.g. ipratropium, tiotropium
  IV- **xanthenes**: e.g. theophylline.

13-drug used in moderate to severe asthma : omalizumab
482-B-blockers are contraindicated for hypertensive patient in case of Asthma
169- mechanism of using salbutamol inhaler exhale , shake the inhaler , put it between your lips then breathe slowly
20-A woman suffers from **acute asthma attack**, what is the best choice for her attack **salbutamol**

95-Mechanism of action: albuterol inhaler? **Bronchodilator Short acting selective β2 agonist**
301- Which of the following beta-adrenergic agents is not short acting? Salmetrol
378-Side effect of albuterol Tachycardia
250- acetylcystiene is mucolytic
460- MOA of cromolyn (cromolyn sodium) mast cell stabilizers
461- Treatment of patient with chronic wheezing and cough: corticosteroid

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19-**A non-smoker patient** suffers from **wheezing and chest tightness**, what medication he should use? **corticosteroids**

--Terbutaline is used as … >> Anti-Asthmatic
32-Respiratory acidosis is caused by CO2 retention

Allergy and histamine blockers

76-zyrtec family is h1blocker (zyrtec (cetirizine)
295- mizolastine used as non sedating – antihistaminic
353- has 5-HT antagonist and H1 antihistamine effects Cyproheptadine
687-Cyproheptadine acts as: Antihistamine
448- Side effect of diphenhydramine drowsiness

Analgesics and anti inflammatory

Analgesics

- ✓ **Notes: N.B. Dose for children of paracetamol:Four years old child should take 240 mg paracetamol per dose, repeated every four hours, Maximum: 5 doses daily>>>>> so, 5 x**
- ✓ **N.B. Dose for children of paracetamol: • Four years old child should take 240 mg paracetamol per dose, repeated every four hours, Maximum: 5 doses daily>>>>> so, 5 x 240mg= 1200 mg =1.2g choice: 1g (as age based dose)**

- **For.(age based dose): 10 to 15 mg/kg/dose every 4 to 6 hours as needed; do not exceed 5 doses in 24 hours; maximum daily dose: 75 mg/kg/day**

✓ **Adult maximum dose of paracetamol: 4000mg = 4g**
✓ **240mg= 1200 mg =1.2g choice: 1g (as age based dose)** ☐ For (age based dose): 10 to 15 mg/kg/dose **every 4 to 6 hours as needed; do not exceed 5 doses in 24 hours; maximum daily dose: 75 mg/kg/day** ☐ **Adult maximum dose of paracetamol: 4000mg = 4g**
✓ **--Nb :Dyslipidemia: A disorder of lipoprotein metabolism, including lipoprotein overproduction or deficiency.**
✓ **indomethacin is potent anti inflamm. so more serious on GIT and kidneys**
✓ **If there is piroxicam or ketorolac in choices choose them better**
✓ **$$$--- If there is piroxicam or ketorolac in choices choose them better**

✓ N.B:
✓ 1-The AGS recommends treatment with **opioids** for **OA** when **older patients** do not respond to initial therapy with acetaminophen.
✓ 2-The NSAIDs and COX-2 inhibitors are seldom considered when a thorough assessment of the patient shows that the risk of treatment (gastrointestinal bleeding and renal disease) does not outweigh the potential benefit

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Non selective COX-II inhibitors:

39-with anti-inflammatory and analgesic : ibuprofen
176-a geriatric patient with osteoarthritis mild pain in hip . he has hypertension and coronary artery disease what is the best drug for pain paracetamol(acetaminophen)
467-Acetaminophen for a patient with osteoarthritis suffering from pain

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105- W.F. is an 85-year-old man who presents to his physician with pain from hip **OA** (osteoarthritis) He also has **hypertension**, **coronary artery disease**, and **BPH**. For his OA, W.F. has been taking acetaminophen 650 mg 3 times/day. W.F. reports that acetaminophen helps, but he still experiences pain that limits his ability to walk. Which one of the following is the best next step in analgesic therapy for W.F.? . **Add hydrocodone**
NB--3-Glucosamine can be added to this patient's medication regimen; however, if effective, it will not provide immediate relief of pain.

308-for a 4 year old child, the maximum daily dose of paracetamol is 1 g
579-the recommended maximum adult daily dose of paracetamol 4000mg
205-acetyl salicylic acid used in : analgesic
225- Effect of aspirin decrease prostaglandin
414-Anti-inflammatory MOA decrease prostaglandin
385-the drug that most likely causes peptic ulcer indomethacin

Selective COX-II Inhibitors

325- Concerning COX-2 inhibitor, which is not true ? combination with non-selective agents provide additional benefit
89-rofecoxib is selective cox2 inhibitor
377- Drug contraindicated with ischemic heart disease patient with dyslipidemia: celecoxib

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104. A dyslipidemia patient has ischemic heart disease… Which of the following is **contraindicated Celecoxib**
425-The drug is most commonly used in the selective COX2 inhibitors: Celecoxib
684-Cardiotoxicity is caused by: Celecoxib

Steroids

98-corticosteroids with lowest potency : hydrocortisone
342-most potent anti-inflammatory corticosteroid systemically is : dexmethasone

Autonomic Nervous System (ANS)

Notes

✓ **intrinsic sympathomimetic activity DRUGS : pin= pindolol , ox= oxprenolol,, ac=acebutelol**
✓ **Cardiac shock = Dopamine**
✓ **Anaphylactic shock= Epinephrine**
✓ **- Septic shock= 1.intravenous fluid (normal saline) first then 2.Dopamine .**
✓ **-Septic shock in this question (NO 183)with normal sodium level and renal failure (kidney injury)= Dopamine .**
✓ **-(dopamine will increase the force of contraction <<<its b1 agonist so work on heart in term of contraction)**
✓ **-Dopamine mechanism of action:**

- **Stimulates (both adrenergic and dopaminergic) receptors, lower doses are mainly dopaminergic stimulating and produce renal and mesenteric vasodilation,**
- **higher doses also are both dopaminergic and beta1-adrenergic stimulating and produce cardiac stimulation (Inotropic) and renal vasodilation;**
- **large doses stimulate alpha-adrenergic receptors**

✓ **N.B: Dopamine is a precursor to norepinephrine in noradrenergic nerves and is also a neurotransmitter in certain areas of the central nervous system**
✓ **--Clonidine: it inhibits the release of norepinephrine (noradrenaline) in a form of negative feedback**
✓ **---•Betaxolol selective Beta-1 blocker •Timolol is non selective Beta blocker**
✓ **-All the following side effects of atropine: urine retention, constipation, blurred vision, dyspnea**
✓ **---1-β1 works on heart as Agonist------strengthens the action of heart 2-B2: Agonist works on lung---------- Dilate lung for asthmatic.patient**
✓ **--N.B: Bph (benign prostatic hyperplasia (enlarged prostate) Terazosin is alpha-adrenergic blockers so it relaxes arteries so that blood can more easily pass through them. It also relaxes the muscles in the prostate and bladder neck, making it easier to urinate.**
✓ **---Phenylephrine mechanism: Potent, direct-acting alpha-adrenergic agonist with virtually no beta-adrenergic activity; produces systemic arterial vasoconstriction.**
✓ **--Reserpine mechanism: deplete catecholamines from sympathetic nerve endings**
✓ **(alpha 2 agonist as: Methyl dopa &clonidine)**
✓ **-Phentolamine(Rogitine).nonselective-alpha-adrenergic .antagonist**
✓ ABC = Airway, Breathing & Circulation

✓ N.B: - severe septic shock, we recommend intravenous fluids firstly … then 1. Norepinephrine
✓ 2.dopamin (is the DOC in case of septic shock + kidney injury)
✓ 3.Epinephrine (adrenaline)
✓ N.B:1-**Tamsulosin is an α-adrenergic blocker** with more specific activity for the **genitourinary system.**

Sympathomimetics

300-Which of the following action is not seen with sympathomimetics Pupil constriction
65-which of the following used in treatment of anaphylactic shock epinephrine (used as broncho dilator)
140- To increase duration of lidocaine in anasethia epinephrine
328-Which of the following side effects is associated with the use of norepinephrine: Ischemic damage due to vasoconstriction and tissue hypoxia.
215-phenylephrine used in decongestion
348-Phenylepherine: a- used in nasal decongestant b-in high doses stimulate b adrenergic receptor e- both a and b
654- Phenylephrine act on .. alpha agonist
621- When taking MAOIs avoid food containing – tyramine
28- tyramine when taken with MAOIs(monoamine oxidase inhibitor) cause severe crysis of hypertension
157- amphetamine pharmacological action: indirect acting adrenergic agonist.
329- the pharmacological property of amphetamine is: Causes release of stored norepinephrine.
354- Dobutamine is used as: In cardiac surgery
615-MOA of :(Isoprenaline) Non selective β stimulant
154- Dopamine is used in cardiac shock as:- Increase .force of contraction
183-septic shock patient with normal sodium value with high potassium and creatine the treatment is : dopamine
566-Dopamine is used in cardiac shock as ..-- .selective dilate renal and mesenteric(vasodilation) -
567-Dopamine is used in cardiac shock as:- Increase .force of contraction
599-Dopamine causes: elevate blood pressure
439- Mechanism of action of Dopamine : Dopamine b1agonist
536- Patient has septic shock and his BP 70/40 mmHg , a slight increase in K level and Na within normal range which drug should be treated withsaline
77-A girl with DM type 1 taking insulin… she didn't take insulin yesterday as she didn't eat… She becomes fatigue and has dizziness and nausea her BP 80/50 with NO lactic acidosis … What should be done for her? **half litre 0.9% NaCl every 12 h.**

89-A girl 16 year has **DM type 1** and she takes insulin in specific medical schedule She take **pioglitazone with insulin** according to instructions of her doctor from 2 months ago … She complain nausea and vomiting from two days as she escaped from the schedule… she made Lab tests and you have shown her results in details :

Heart rate110 , Blood pressure 80/50
Initially you give her.. ?? **0.9 normal saline in 500 ml solution**

52- A woman with septic shock… Came to emergency who take ABC , **HR = 122 , BP = 90/70 mmHg , Serum creatinine = 6 ,** Na & Cl... **Very high** than normal range and high pulse . what should she take?**-albumine 5% bolus**

363- Clonidine MOA in treatment of Hypertension: Alpha2 Agoinst decrease sympath outflow
678- drug alpha 2 agonist cause decrease hypertenstion
85-clonidine and methyldopa are alpha 2 agonists
338- Which one of the following cause hypertensive crisis if withdrawn suddenly Clonodine

Sympatholytics

-Alpha-blockers:

33- the main side effect of alpha antagonist (blocker) as prazosin is Postural hypotension (orthostatic hypotension)
108-prazosin is post synaptic alpha1 blocker
268-syncop may occure with the 1st dose of the folowing prazosin
330- Which of the following statements describing first dose phenomenon that associatedwith prazosin is true? . A marked postural hypotension 30 to 90 minutes following the initial dose of prazocin.
553- mechanism of action of domperidone & doxazocin Domperidone has peripheral dopamine receptor blocking properties (dopamine antagonist) and does not readily cross the blood-brain barrier. Doxazosin Competitively inhibits postsynaptic alpha1-adrenergic receptors.
616- A drug Treats Bph by relaxation of bladder neck? Terazocin
209-phentolamine mechanism of action alpha antagonist
282-one of following is not alpha 2 agonist : Guanethidine
292- guanthedin SE are all a-prevent ejaculation b-orthostatic hypotension c- diarrhea

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102- A.W. is an **85-year-old** man who presents to his physician with LUTS. A digital rectal examination confirms the diagnosis of **BPH**, and the physician schedules a further workup including a prostate ultrasound, which **indicates his prostate volume is 31 g**. A.W.'s score on the AUASI is 15. His **BP** is **118/70 sitting**, **102/62 standing**. Which one of the following therapies is best at this time? **Tamsulosin**
------ 2-A.W. already has **orthostatic**, tamsulosin would be preferred over terazosin for this patient.
Orthostatic hypotension can still occur with all α-adrenergic blockers, so patients should be monitored when therapy is initiated.
3- **Finasteride**, an α-reductase inhibitor, and combination therapy with these agents are recommended when there is evidence of large prostate size (**greater than 40gm**).

-Beta-blockers:

84-medication cause long Qr and bradycardia: propranolol
393-Overdose of the following lead to prolongation of Qr and bradycardia propranol
523- Drug used in treatment for Hypertension and migraine : clonidine or propranolol
133- which of the following decrease heart rate ? metoprolol (beta1 blocker)
62-atenolol is selective beta 1 blocker
73- beta blocker with intrinsic sympathomimetic activity : pindolol and acebutalol
156-- which of these have interinsc sympathomemtices effect: pindolol
614-MOA of Labetalol = is a selective alpha-1 and non-selective beta adrenergic blocker used to treat high blood pressure. It works by blocking these adrenergic receptors cardiac output.
563-selective beta blocker for treatment glucoma: Betaxolol

Para- sympathomimetics

104-treatment of myasthenia gravis by neostigmine or pyridostigmine
544- mechanism of action of bethancol selective muscarinic agoinst

Para- sympatholytics

35-anti cholinergic cause constipation
458-Atropine is Muscarinic antagonist
539-Side effect of atropine-urine retention
356- All of these are antichlonergic except: Mebeverine
554- BPH is worsen by anticholinergic drugs

9- 75-year-old woman reports **urinary urgency,** frequency, and loss of urine when she cannot make it to the bathroom in time. She also wears a pad at night that she changes 2 or 3 times because of incontinence. Her medical

history is significant for Alzheimer disease (MMSE 23), osteoarthritis, and hypothyroidism. A urinalysis is negative, her examination is normal, and postvoid residual (PVR) is normal (less than 100 mL). Which one of the following interventions would be best at this time? **Darifenacin**

Blood diseses

Clotting

- ✓ **Notes:- Warfarin affects the vitamin K-dependent clotting factors (II, VII, IX,X) , whereas heparin and related compounds increase the action of antithrombin on thrombin and factor Xa**
- ✓ **-(warfrin is contraindicated in pregnancy)**
  - **Heparin (unfractionated and low molecular weight) is the preferred drug for managing VTE " venous thromboembolism " in pregnancy.**
- ✓ **N.B:Oral.anti-coagulant.is.warfarin.but.clopidogril.is.anti-platelets. (-clopidogril is anti platelets and so can aid in inhibiting clot formation)**

- ✓ N.B: - **Warfarin** is category **X**
- ✓ - **Enoxaparin** ((Clexane)) is a **low molecular weight heparin**
- ✓

317- one of the following not related to heparin prevent formation of factor VII
451- A pregnant woman has deep vein thrombosis (DVT) hospitalized treated by: unfractionated heparin
31- The summary of a long case that pregnant woman in the hospital with deep vein thrombosis "DVT" takes...?
heparin (Enoxaparin or Clexane)
130-heparin injection anti coagulant determined by APTT activated partial thromboplastin time
129-warfarin oral anticoag lant determined or calculated by INR: international normalized ratio
476-Major side effects of anti-coagulant like heparin and warfarin: Hemorrhage
653-.anti coagulant taken oral clopidogril
189- the best drug to be used as an anti-platelet drug ? clopidogrel
595-which the drug used in the lysis of clot streptokinase
609-Streptokinase used in...Myocardial infarction
704_ Altepase used in Acute coronary syndrome

cholesterol

- ✓ **notes: HDL : high density lipoprotein (Good cholisterol) LDL low density lipoprotein Bad cholesterol**
- ✓ **Note: cholestyramine decrease LDL)decrease low density lipoprotein(in body or increasing the removal of bile acids from the body or increase high density lipoprotein (HDL) in body.**
- ✓ **N.B:cholystramine increases the fecal loss of bile salt-bound low density lipoprotein cholesterol Low.density.lipoproteins.(LDLs).carry.cholesterol.from.the.liver to body cells**
- ✓ **•Lipoprotein lipase (LPL) is a multifunctional enzyme produced by many tissues.**
- ✓ **•LPL is the rate-limiting enzyme for the hydrolysis of the triglyceride (TG) core of circulating TG-rich lipoproteins, chylomicrons, and very low-density lipoproteins (VLDL).**
- ✓ **•LPL-catalyzed reaction products, fatty acids, and monoacylglycerol are in part taken up by the tissues locally and processed differentially; e.g they are stored as neutral lipids in adipose tissue, oxidized, or stored in skeletal and cardiac muscle or as cholesteryl ester and TG in macrophages.**

- ✓ LDL: Low-density lipoprotein it's the bad cholesterol that collects in the walls of blood vessels, causing the blockages of atherosclerosis

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492. LDL indicate ? Arteriosclerosis
66-the summary of a case that shows lab results which were all normal or about to be except LDL was very high… the answer is **increase the risk of atherosclerosis**
581-Low denisty lipoprotein(LDL)act as: carrier cholesterol in plasma
648-pharmacological uses of cholestyramine is anti hyperlipidemic
649-pharmacological benefit of cholestyramine decrease LDL
700- Lipoprotein lipase LPL is responsible for transportation of: 3-fats to tissue
701-(Low density lipoproteins)LDL is responsible for transportation of: cholesterol
650-Drug for hyperlipidemia not decreaseLDL fibrate (Fenofibrates (gemfebrozil) acts on Triglycerides
565- statin mechanism Decrease cholesterol by HMG coA reductase enzyme inhibitor
494. Used in hyperlipidemic? simvastatin
226- drug decreases synthesis of cholesterol in liver Simvastatin

Biochemistry

Lab tests

3- lab tests can be done now: Iron
4-what lab tests have to done today: Cbc

Genetic disorders

Notes: - Nitrofurantoin & Sulpha drugs cannot be used in GDPD deficiency patients because it has high risk to them.
1-**Sulfa** compounds will cause **hemolysis** to this patient… **Vancomycin is the last choice** & Nitrofurantoin used in pregnancy with caution "not used in G6PD" so the answer is **Cefuroxime**

248 -Pregnant woman with G6PD deficiency has G-ve. M.o. and UTI, which is the drug of choice to treat her UTI: cefuroxime
37-**A Pregnant** woman has. **G-ve. M.o. and UTI,which.** Is the drug of choice to treat her UTI? **nitrofurantoin**
469-A drug is contraindicated with patients have G6PD deficiency suffering from malaria: primaquine

Cancer

- ✓ **Notes: Flutamide and androcure are anti androgenic drug to treat prostate cancer**
- ✓ **-Vinca Plant ... Vincristine, Vinplastin**
- ✓ **-Plant origin ... Etoposide**
- ✓ **electromagnetic ray incude (radio, micro, ultraviolet, x_ray, gama)**
- ✓ **N.B Granisetron is Serotonin (5HT3) antagonist Also Ondansetron, Dolasetron**
- ✓ **NB-vindesin(Vindesine is an anti-mitotic vinca alkaloid used in chemotherapy)**
- ✓ **Cyclophosphamide is(an alkylating agent)**

113-flutamide is used for treatment of prostate cancer
545- Flutamide indication and mechanism of action Used in treatment of prostate cancer which act as Nonsteroidal antiandrogen that inhibits androgen uptake and/or inhibits binding of androgen in target tissues.
165- drug used to treat prostate cancer flutamide
191- a drug used to treat prostate cancer : Androcure
142- Anticancer from plant alkaloids origin: Etoposide Plant origin ... Etoposide
276-- Anticancer derived from plant origin NOT venca_ Etoposide
- -anti cancer derived from venca is_ Vincristine
296- all these drugs are anti metabolite execept Cisplatin
145- Doxorubicin(anti cancer) side effect :- cardiac toxicity
186- florouracil is Pyrimidine derivative
247-which of the following is an antimetabolite and anti-cancer : Fluorouracil Antimetabolite (Pyrimidine Analog)
620-Anti metabolite anti-cancer flurouracil
261-Hydroxyurea is antineoplastic drug
180- Cervical cancer caused by or treatment of infertility or to prevent cervical cancer hpv (human papilloma virus vaccine)
514- What is the vaccine that reduces the incidence of infertility or prevent infertility: human papilloma virus
473- A Drug to manage nausea and vomiting for cisplatin (or chemotherapy): Granisetron (Kytril)

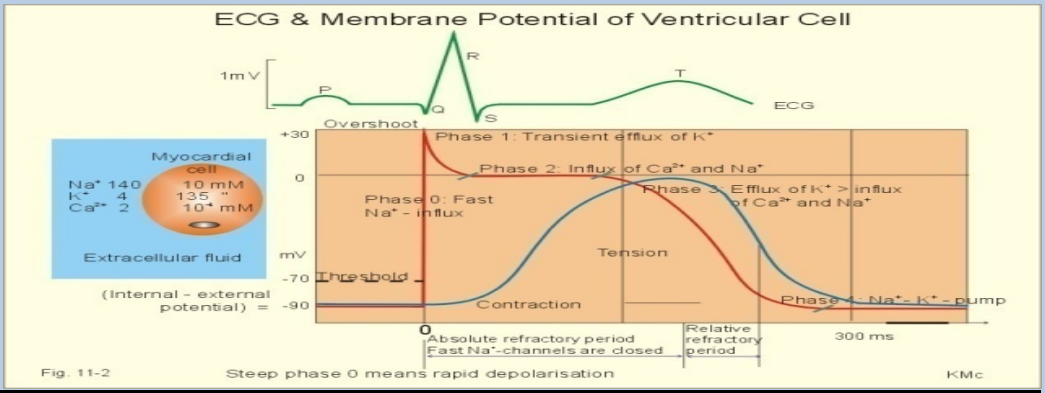
Radiation

315- arranging the electro magnetic waves alpha,,, beta,,,gamma in an increase ranking in air will be alpha,beta,gamma
Q-All of the following to decrease the exposure to the radiation except -decrease the activity of radiation person
347-which is (are) electromagnetic waves?? a)X-ray c) Gama- ray d)a+c

Cardio

Antiarrhytmic

:



- ✓ Notes: **N.B: oral bioavailability of digitoxin 90% (practically we call its completely absorbed) and 70% for digoxin**
- ✓ **N.B: If asked arrhythmia with heart block the answer is phynetoin**
- ✓ **Ventricular arrhythmia >> Procainamide**
- ✓ **Digitalis.arrhythmia>>lidocaine..if.not.exist.so.Phenytoin.will.be.the.answer .**
- ✓ **N.B class A 1 Anti-Arrhythmic: quinidine, Procainamide & dispyramide**
- ✓ **Bretylium class3 anti antiarrythmic is an adrenergic neuronal blocking agent**
- ✓ **-Phase 1 of Arrhythmia: Transient early repolarization, due to potassium efflux**
- ✓ **-Phase 2 of Arrhythmia: plateau Phase Calcium influx**
- ✓ **continues.and.is balanced to some degree by.potassium efflux**

120-digitalis arrhythmia can be treated with phenytoin
274- which one used in ventricular arrhythmia with heart block Phenytoin
454-Phenytoin effect decrease by kidney impairment
210-usual daily dose of phenytoin 100-300mg
289-phenytoin uses other than anti convelcent agent are : ttt irregular heart beat&ttt painful nerve coduction (neuralgia)
582-A drug with narrow therapeutic index Phenytoin
584- A drug has Dose-dependent according to pharmacokinetic parameter Phenytoin
617- Decreases effect of phenytoin? Alcohol (by increase metabolism)
22 - gray man syndrome caused by : amiodarone (anti arrhythmic drug)
45-quinidine(anti arrhythmic) side effect : cinchonism
283-about digitoxin , which is false : Oral bioavaiability 100%
286- Drug used in ventricular arrhythmia : Procainamide
275-which one is anti arrhythmic class 1A disopyramide
639-.dispyramide as anti arrhythmia: A.dec. phase 0
466- MOA of antiarrhythmic Class 1A (quinidine) decrease rate of phase 0 depolarization
290- arrhythmia due to : dysfunction in generate heart pulse or conduction of it abnormal impulse conduction and abnormal impulse propagation
504- phase 2 in cardiac mean that : a)depolarization due to Na influx b)repolarization due to Na-- c)depolarization due to k influx d) non of them
675another use of lidocaine beside local anesthetic (class 1 B antiarrythmic
679-Verapamil antiarrhythmic class is: Class IV (4)
680-Propranolol antiarrhythmic class is: Class II (2)
706.Quinidine is similar in its action to ? procainamide
332- which one causes hypotension due to blockage of efferent limb baroreceptor reflex Bretylium

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Congestive Heart failure

Notes: **Narrow therapeutic index (NTI) means the ratio between LD50 and ED50 is small**

53-digoxin shouldn't be taken with renal failure
56-digoxin toxicity increased with hypokalemia or hypomagnesmia or renal failure all of them
126- digoxin mechanism : +ve inotropic effect
335- Digoxin action except :- c-increase conduction velocity in AV node
297- about digioxin what is not true ? taken only orally
382- a drug increases the effect of highly bound to plasma protein digoxin
390- Which one has narrow therapeutic index: digoxin
696-life threatening arrhythmia is side effect of --- digoxin

94-A Drug that may cause arrhythmia **Digoxin**
478- Digitalis toxicity due to -hypo kalimia
272- the main cause of digitalis toxicity is renal faliure hypokalimai is main cause of digitalis toxicity
246- Nitroprusside in congestive heart failure patient is administered by slow i.v infusion
336- Milironin has following except increase ca intercellular
427- A Drug that may cause arrhythmia Digoxin
591- Which of the following cardiac glycoside doesn't occur naturally? Amrinone
638-ACEI role in CHF prevent ventricular remodeling

Hypertension

- ✓ **Notes: - Main side effect of nitrates is……..headache**
- ✓ **Amlodipine relaxes smooth muscles, including those of lower esophageal sphincter and esophageal body 1- verapamil CCB on the heart 2- Amlodipine CCB on BV**
- ✓ **N.B: hydralazine is a vasodilator (direct-acting) smooth muscle relaxant works by relaxing blood vessels (arterioles more than venues) and increasing the supply of blood and oxygen to the heart while reducing its workload Note: Verapamil , diltiazem block Ca on heart Amlodipine nifedipine block Ca on Blood vessel and heart**

311-The aim in the management of uncomplicated hypertension: > 130\80
491. Diltiazem actin? CCB cacuim channel blocker
94-deltiazem used in hypertension to inhibit calcium influx
346-Calcium-channel blockers mode of action b) decrease the inward calcium to cells
373- Which of the following dilate the lateral esophageal sphincter amlodipine
646--MOA of Amlodipine: Calcium channel blocker (CCBs) Block calcium and block contractility of heart and induce vasodilatation of blood vessel
184- Nitro glycrin side effect is:- headache
534- main side effect of nitrates ? Headache
694-MOA of nitroglycerin --coronary vasodilation
339-which one is not effect of Nitroglycerin vasodilation slow heart rate
270- antihypertensive produce tackycardia : Hydralazine
291- Hydralazine, vessel relaxation. It dilates arterioles more than veins.
619-Hydralazine acts on heart by Relax smooth muscle
294- about minoxidil dilate arteries only
331- all the following diazoxide side effects except dieresis
76-A Young female take lisinopril and will be conceiving **Stop lisinopril w take methyldopa**
502-pregnant hypertensive woman take methyldopa

Angina and myocardial infaraction

- ✓ **note : with angina/ vasopressin: vasopressin worsens cardiac output in angina , with asthma : aspirin**

208-which of the foolowing is contraindicated with angina vassopresin
309- To supply the myocardium with O2 shortly after myocardial infarction we give aspirin
314- Tolerance is a problem when using Nitroglycerin, which of the following is true: Dosing schedule may affect tolerance
369- Role of B-blocker for angina: Prevent reflex tachycardia(decrease O2 demand)
474- Why Beta blockers are used to treat angina? decrease sympathetic cardiac stimulation
577- Relief pain due to MI (Myocardial Infarction) Morphine

Central Nervous System

Anti Depressants

Notes :

- ✓ **-desipramine and nortriptyline(secondry antidep.)**
- ✓ **-Bupropion is a (Dopamine/Norepinephrine-Reuptake Inhibitor) used in smoking cessation. • Nortriptyline (TCA) is used as (off-label) use in smoking cessation. • Champix (Varenicline) is partial nicotine agonist used in smoking cessation aid also.**
- ✓ **N.B: Fluoxetine is a selective serotonin reuptake inhibitors (SSRI) antidepressant**
- ✓ **-MAOI work through: increase avialability of monoamine neurotransmitter**

29-tertiary amine of TCA (tricyclic antidepressant) is Amitriptylline and imipramine
302-Which of the following drugs is not a Tricyclic Antidepressant?Maprotiline (tetracyclic)
689-Mechanism of action of TCAs is: decrease reuptake of amine at synaptic

576-MOA of Fluoxetine selective serotonin reuptake inhibitor (SSRI) antidepressant
693-ssri fluoxetine used as---mood stabilizer
583- Which of the following drugs are considered drugs dependence in fluoxetine(Prozac)
360- Antidepressant helps in stop smoking bupropion Zyban

CNS depressants

Notes

- ✓ **cocaine make mydriasis & Heroin miosis as morphine =pin point pupil**
- ✓ **It is normal side effect but in other question (young girl) answer is shift to ethosuximide Drug used in abscence seizure (petit mal seizures)ethosuximide**
- ✓ **-About tonic clonic sezure: unconciousness , unvoluntry movement ,The seizures usually involve (tonic phase) muscle rigidity, followed by violent muscle contractions (clonic phase), and loss of alertness (consciousness) --- it's also called grand-mal epilepsy**

- ✓ N.B: **Ethsuoxmide** is the drug of choice **for petit mal epilepsy** which usually associated with children
- ✓

Epilepsy:

243-- Pregnant woman taking valproric acid go to physician with tonicclonic seizures.. Which of the following is true? use valporic with folic acid -- e- go to the doctor **the answer is C … if go to doctor in option so the answer is E**
277-which one used to trigeminal neuralgia tegretol(Carbamazepine)
379-Drug of choice in absence seizures .. ethosuximide
402- ethosuximide **is antiepileptic used in absence (petit mal) seizure**
472- Child on oxcarbazepine for epilepsy and suffers from rash Change to ethosuximide
571-A 12 years old girl suffer from rashes after treating with oxycarbamazepine shift to ethosuxamide

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4- A **young girl** has **seizures** and **tremors,** the physician prescribed **oxycarbamazepin** after 2 weeks of administration, redness and pruritic rash **-shift to ethsuoxmide**

511-woman taking oxycarbamazipine, after 2 weeks of administration, redness and flushing appear…. keep using oxycarbamazipine

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5- A woman is taking **oxycarbamzipine**, after 2 weeks of administration, redness and flushing appear... What is the best choice for her? **/ keep using oxycarbamazipine**

N.B: It is **normal** side effect but in other question (**young girl)** answer is shift to **ethosuximide**

521- Primidone prodrug of phenobarbitone and Used as anti epileptic
570-14years-obese girl comes to the clinic with severe rash. She was initiated on oxcarbazepine about 3 weeks ago for management of partial seizures. Her medical history is significant only for seizures. She has recently become sexually active and admits to inconsistent contraceptive use.
Which one of the following interventions is best for her? Change to topiramate.

Narcotic Analgesics

34-morphine cause constipation
50-morphine act on mu receptors
203- Opioids can be used as: analgesics
240-Women came to the ER with pointed pupil. With vomiting and dizziness... Which drug is responsible? A-Heroin (Heroin because it is opoid agonist and cause miosis)
255- Enkephalins are peptides that: -similar in action to morphine
299- Various opiates may be used as all of the following except: Anti-inflammatories
345- Morphine causes respiratory depression by depression of respiratory center in brain
36-narcotic addiction is treated by: methadone
588- Naloxone exert its action through...antagonism

Hypnotics

57- lorazepam is hypnotic at dose of 4mg
468- Drug that is susceptible to cause drug dependence: Benzodiazepines
513-Which of the following drugs lead to addiction: benzodiazepine
651-which of the following drugs cause dependence benzodiazepenes
495. Benzodiazepine is used in treatment of ? note:(Anxiolytic and anticonvulsant)
a-anxiolytic **c-anti-epileptic (a & c are correct)**
498- benzodiazepine action? Inhances GABA inhibitory effect (gamma-Aminobutyric acid(GABA agonist) GABA agonist

555- mechanism of action of benzodiazepine
590- MOA of Benzodiazepine? Anxiolytic
604-Diazepam action is inhibit glutamate secretion
102-antipsychotic cause agranulocytosis: clozapine (atypical)

Skeletal muscle relaxants

40-patient with hepatic and renal failure which of the following skeletal muscle relaxant can be used atracurium
Q- Neuromuscular blocker is used of choice in renal and hepatic failure: - atracurim
107-neuromusclar blocker block : acetylcholine
148- which drug may used as anti-spasmodic baclofen
206-which of the following is less potent than tubocurarine succinylcholine
362- Neuromuscular blocker has the lowest t half Succinylcholine
211-mechanism of action of dantrolene : cause skeletal muscle relexant by binding to the ryanodine receptor decreasing intracellular calcium concentration
- :If the question is d**antrolene h**as direct or in direct action .. the answer is – **Dantrolene is a direct-acting skeletal muscle relaxant. It is currently the only specific and effective treatment for malignant hyperthermia**

CNS stimulants

Notes

- ✓ **Amantadine is dopamine agonist**
- ✓ **NOTE: Carbidopa mechanism: is a peripheral decarboxylase inhibitor. It inhibits the peripheral decarboxylation of levodopa to dopamine; and as it does not cross the blood-brain barrier, unlike levodopa, effective brain concentrations of dopamine are produced with lower doses of levodopa.**
- ✓ **That is why carbidopa is used in combination with levodopa to treat Parkinsonism.**
- ✓ N.B: ADHD = Attention Deficit Hyperactivity Disorder

86-amantadine (antiviral) used for treatment of parkinsonism
676-amantadine M.O.A: antiviral and antiparkinsonian
214-used for alzehimer : donepzil
318-Which not effect of caffiene-: skeletal muscle relaxant
645-carpidopa act anti-parkinsonism by.. inc. dopamine

7- A 9-year-old boy has a new diagnosis of **ADHD.** At school, he is disruptive, talks when the teacher is talking, and runs around the classroom. His parents report extreme difficulty in getting him to do his homework after school. Which one of the following is best for his initial drug therapy? **a. Methylphenidate extended release given once daily.**

Anesthesia

90-local anesthesia agent is lidocaine
91-which of the following anesthetics cause cardiotoxicity Bupivcaine
307-Ultra-short acting barbiturates are used primarily as Preanesthetic agents
333-thiopental is ? short acting barbiturates
349- One of the statement considering Tetracaine One of neuromuscular blocker- The most one of choice in spinal anaesthesia

Gastrointestinal

Stomach

Notes :

- ✓ **H.pylori treated by triple therapy ((PPI + 2 antibiotics)) usually ((omeprazole + metronidazole + clarithromycin)) omeprazole alone used for Gastritis**
- ✓ **Note : PG for prophylaxis Antacid>>>Mg/AL hydroxide neutralize acidity>>antacids**
- ✓ **N.B: Sucralfate (aluminum sucrose sulfate) , H2 blocker and PPI are effective in ttt NSAIDs induced ulcer The most effective is PPI prostaglandin analogue (misoprostol) (cytotec®), gastric mucous barrier is prophylaxis , can't treat the ulcer**
- ✓ **N.B.Medications that cause heartburn pain include: Antibiotics , Bisphosphonates taken orally , Iron supplements , Quinidine ,Pain relievers, Potassium supplements .**

233- Omeprazole can be used as a single drug in: gastritis as a side effect of Nsaids
12- when we need to use omeprazole as a single therapy: gastritis
46-treatment of h.pylori infection by triple therapy (proton pump inhibitor+2 antibiotics) (omeprazole+clarithromycin+(amoxicillin or metronidazole))

103-A patient with peptic ulcer due to **H.pylori** and he has allergy to B-lactam… what's is the best medication for him? **PPI+clarithromycin+metronidazole**

116- omeprazole used before 30 minutes breakfast

229- drug for esophageal reflux Pantoprazole

702- PPI (Proton Pump Inhibitor) is used in GIT bleeding is pantoprazole

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27- A patient came with multiple fractures of his bones and ribs from an accident. He has a brain trauma and he is on **NGT** (Nasogastric Tube) in ICU. Which of the following is best used for the prophylaxis of **stress induced ulcer** that can be happened to him: **IV pantoprazole**

200-the oesophageal ulcer occurred due to: increase gastric secretion

371-The most rapid relief of acidity antacid (Al/Mg hydroxide

586-which.drug.has.the.rapid effective action in esophageal burn and acidity magnesium/aluminum hydroxide

374-which of the following can neutralize acidity and treats gastritis resulted from NSAIDs Proton Pump Inhibitor

542-Which of the following is given to neutralize stomach acidity and prevent peptic ulcer antacid

630-.rapid relief of acidity...Al hydroxide

96-antacid is used in heart burn to neutralize acidity

686-Ranitidine mechanism of action: H2 antagonist

697-which is most likely to cause heartburn - kcl

Diarrhea And Irritable bowl syndrome

- ✓ **•Sulfasalazine.is.used.in. the treatment of inflammatory bowel disease, including .(ulcerative colitis and Crohn's diseas). It is also indicated for use in rheumatoid arthritis and used in Juvenile rheumatoid arthritis.**
- ✓ **•The right answer is inflammatory bowel disease, including (ulcerative colitis and Crohn's disease). The irritable bowel syndrome is different than inflammatory bowel disease.**

526- Patients with ulcerative colitis ttt on cortisone and mesalazin must use what?
if Colitis & Cortisone ……..>> the answer is Ca if Colitis only……..>> the answer is vit b12
Ca ... due to corticosteroid drugs induce osteoprosis .. so we give ca as prophylaxis therapy if there is ((ca+vit b12)) is better if colitis without
cortisone the answer will be vit ((B12))

24-diphenoxylate and loperamide are narcotics or opioid agonists which are used as : anti diarrheal

80-loperamide stimulate MU receptors

185- loperamide act as: opioid agonist anti-diarrheal

constipation

19-mechanism of action of bisacodyl (stimulant laxative)stimulation of enteric nerves to cause colonic contractions

20-bulk laxatives mechanism of action-add water and bulky to stool and soften stool like a jelly

69-magnesium sulphate(antiacid) has cathartic side effect so used as laxative

601-.which antacid give cathartic effect as a side effect -Mg hydroxide

Nausea and vomiting

195-cyclizine is used in nausea and vomiting

213-perphenazin used in (anti psychotic) nausea and vomiting

690-uses of promethazine: Nausea & Vomiting N.B: strong sedative and weak antipsychotic effects reduces motion sickness and has antiemetic and anticholinergic properties.

265-The following statements are wrong about domperidone except anti-emetic without CNS effect

Hormone

Adrenal glands

121- cushing - like syndrome is due to adrenal hyperplasia

Pituitary glands

- ✓ **N.B 1-An I.V infusion of oxytocin is used to induce labor**
- ✓ **2-Vasopressin is antidiuretic hormone (ADH)**
- ✓ **Hormone released from posterior gland Vasopressin and oxytocin.**

47-desmopressin used in treatment of : nocturnal enuresis and diabetes insipidus

365- Hormone released from posterior gland vasopressin and oxytocin
100-bromocriptine reduce prolactin level
404- hormone is released from adrenal cortex Adrenocorticotropic progesteron

Diabetes mellitus

- ✓ **Notes: NPH ==> intermediate acting and no excess protamine (basic)**
- ✓ **TYPE 1 : insulin + healthy diet + exercise**
- ✓ **TYPE 2 : we have steps to follow with pt : 1- healthy diet + exercise = if not work go to next step 2- healthy diet + exercise + ORAL anti diabetic "metformin" = if not go to the next step 3- healthy diet + exercise + ORAL anti diabetic + insulin**
  - ☐ **Metformin is category B in pregnancy & can be used.**
  - ☐ **Insulin is the drug of choice in gestational diabetes (diabetic pregnant) but glargine (long acting insulin) is category C in pregnancy.** ☐ If there is no insulin in choices choose metformin NOT **glargine.**
- ✓ **Metformin as weight is an indication for type 2diabetes**

- ✓ N.B:1- **polyurination**: The production of an abnormally large amount of urine; one symptom of diabetes
- ✓ 2- **glucosuria** is the excretion of **glucose** into the urine

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-**hyperkalemia** most commonly occurs in uncontrolled hyperglycemia (**diabetic ketoacidosis)** due to lake of insulin

- ✓ - The **acidosis** and **high glucose** levels in the blood work together to cause fluid and **potassium** to move out of the cells into the blood circulation
- ✓ **N.B**: (HBA1C or HGBA1C): is a form of hemoglobin that is measured primarily to identify the average plasma glucose concentration over prolonged periods of time… type 2 diabetes start with metformin
- ✓ If HBA1C is getting higher even if **1% we increase metformin** If HbA1c increased for **more than 10%** we give **insulin**
  Hba1c is the same as a1c
- ✓ normal HbA1c less than **6.5 - 7**
- ✓ N.B: An adult who has : BMI = 25 to 29.9 is considered overweight .BMI = 30 or higher is considered obese

☐ For elderly patients… - If younger than 80 years old … metformin - if older than 80 years old …glyclizide "as usually elderly patients have kidney dysfunction which contraindicated with metformin"

41-tyrosine kinase class II receptors are insulin receptors
59-long acting) insulin is : glargine
75-insulin given iv is : regular
170- drug of choice for gestational diabetes insulin
547- on treatment of insulin , which should be monitored ? Potassium as it cause hypokalemia

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73-A summary of a case that a **diabetic girl** her lab results were mostly normal except glucose ….27, potassium is higher than normal by 1 what do you recommend for her? **C-insulin infusion 10 unit**

30- **Diabetic** patient uses **insulin** daily, he forgot to take his insulin dose someday... he did lab tests and his results was normal **except, high glucose**, high potassium (**hyperkalemia)** what do you recommend for this case ? **-restart his daily insulin dose**

--What first line agent may be considered for an obese type 2 metformin

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42-An elderly man around 60 years old, complain from polyuria, dry mouth…There is no family history of diabetes… He has done a lab tests and the results were positive for diabetes…Initial treatment should be: **metformin**

43- A **83 years** old man suffers from fatigue, weakness and dizziness, there is no family history of diabetes… he went to the doctor and had done a lab tests and the results were positive for diabetes and **BMI = 28** .. Initial treatment should be? **Gliclazide**

162-which of the following diabetic drugs approved by fda for pediatric .use metformin
228- anti diabetic drug used in pregnancy Metformin
399-12 years old boy has diabetes type1 which drug can take? Metformin (Note : if " insulin" is an option .. choose it .)
499Treatment of Diabetic patient with Glycated hb 9 as initial ttt: Metformin
633-case in which glucose is high and its weight 103 kg and ha1c is 9, he will take.. metformin

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38-A **hyperglycemic** patient his blood glucose level given by moles and his **HBA1C** was high ((more than 10%) …What is the best medication for him? **-insulin 70/30**

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524 - An elderly man around 60 years old , complain from polyuria , dry mouth .. there is no family history of diabetes .. he has done a lab tests and the results were.positive.for.diabetes.initial treatment should be metformin

---

28- A patient suffers from **polyurination** and dizziness so he does lab tests and his results are as following:
- **glycosuria** +ve
-capillary blood glucose = 15 normal up to 6
-lbw = 28
what is the best medication for this patient ? **metformin**

39-A Diabetic **patient** takes metformin twice a day, he did blood glucose analysis and there was 4 results all were normal except one result was high and HbA1c was 7.. What he should do? **increase dose of metformin**

45-**A diabetic** woman is taking 850 mg metformin… her results are 7.5... 5.5… 6 … 5 and her HbA1c is 7.5 … what's your advice? **increase metformin dose**

49-A 48 woman suffers from fatigue, weakness and polyurination and lab tests proved that she is **diabetic**… A Doctor prescribed her 850 mg metformin twice a day and so blood sugar become normal... but after sometime she did another lab tests and the result was **hemoglubinated sugar increased** by **1%** than the last result … what will you advise her? **increase metformin dose**

47-A 54 years woman with polyuria for 3 months before analysis... **Give Metformin 3 times a daily**

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48. A diabetic patient takes **metformin with glipizide and pioglitazone** was added…Which test should be done regularly? **liver function.**

85-A **diabetic** woman takes **metformin and glibenclamide**… she went to the doctor and he increased the dose of **glibenclamide**… Which analysis should be done regularly? **-liver function**

519--A 22 years woman wants to become a pregnant , she is taking stop pioglitazone and titrate metformin

632-A case of 22 years old woman that wants to get pregnant, she takes Pioglitazone with metformin as her treatment. She has a history of hypoglycemia and she prefers to take oral therapy. What will be the best approach in her case? stop pioglitazone and titrate metformin

546- Pioglitazon side effect hypoglycemia

533-CASE WOMAN Hyprttention diabetic and sensitive of sulph. which is contraindicated with sulpha Glyburide-(glipride as it is sulphonylurea derivative and she is allergic to any sulpha containing drugs)

106-.**A diabetic** woman has **hypertension** and she is sensitive to sulpha compounds…Which of the following is **contraindicated** with this case? **Glipizide**

Male specifics

25-both of cimetidine(h2blochker) and spironolactone have anti androgenic effect

381- A diabetic old patient with hyperlipidemia complains of erectile dysfunction so DOC sildenafil

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16-A Case about Patient with **Erectile dysfunction** (ED) caused by long-lasting HTN & Diabetes… so use: **Sildenafil**

Gynocology

- ✓ **Notes: NBContraceptives make feedback inhibition to (GNRH)hormone**
- ✓ **Note: estrogen increase the risk of DVT**
- ✓ **Progestin-only OCs are commonly prescribed when women wish to take OCs but estrogen is contraindicated. Levo=progesterone=synthetic progesterone=second generation progestin**
  - **note:drugs act as antiestrogen Clomiphene, tamoxifen,, raloxifen, anastrazol, letrozol**
- ✓ **Take the minipills of progestin if**
- ✓ **Older than age 35 + smoke ,Older than age 35 + migraine headache,Older than age 35 + obese,Older than age 50,Breast feeding,Diabetes mellitus with vascular disease,Risk of DVT or history of thromboembolism "blood clots",History of uncontrolled HTN or heart problems,Breast or endometrial cancer or,Need to get pregnant**
- ✓ **N.B:**
  - **hormone therapy " e.g . oral contraceptive pills" are used to treat endometriosis-associated pain and they are effective.**
  - **hormone therapy " e.g . oral contraceptive pills" are used to treat endometriosis-associated pain and they are effective.**
- ✓ **serious side effects and can be harmful to the baby if the patient become pregnant while taking this medication.**
  - **surgery is the last resort and is recommended if the patient planning for pregnancy**

- ✓ **When you take estrogen, you should always take progesterone to counteract the negative effect of estrogen**

- ✓ - **Oxytocin** is a uterine stimulant used to **induce labor** in women with problems
- ✓ - **Ritodrine** is used to **stop premature** labor
- ✓ - **ergonovine** used for **prevention** and treatment of postpartum and **post abortion** hemorrhage
- ✓ Eclampsia" characterized by HTN + hyperproteinemia

- ✓ - Eclampsia is the development of seizures in a woman which is life-threating
- ✓ **- Mgso4** used to treat these **seizures** not for HTN
  - o to treat HTN in this case we use by order : 1.methyl dopa
- ✓ . 2.labetalol
- ✓ . 3.hydralazine (for emergency or urgency HTN)
- ✓ N.B:1- Women who have both the **uterus** and **ovaries removed** usually just get **estrogen** replacement therapy (ERT) alone. 2-But women who have only the ovaries removed need both estrogen and progestin. That's because estrogen alone can increase the risk of cancer in the uterus. Adding progestin removes this risk.
- ✓ N.B: - hormone therapy “e.g ..... Oral contraceptive pills" are used to treat endometriosis-associated pain and they are effective.
  - o Danazol can be used but it isn't the first choice because it can cause serious
- ✓ side effects and can be harmful to the baby if the patient become pregnant while taking this medication.
  - o Progestin have a more favorable side effect profile than danazol.
  - o Surgery is the last resort and is recommended if the patient planning for pregnancy

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6-In ovulation phase hormone which predominant LH
18- human chorionic gonadotropin is used to : Induce ovulation and treatment of infertility
440-MOA of Chorionic gonadotrophic during of treatment of infertility? Follice and induce ovulation
77-oral contraceptive work on Gnrh hormone in phase of ovulation
82-Which the following hormone **suppress** due to take **oral contraception: GnRH**
101- When should woman change her pregnant pills?**It is needed to be changed even she doesn't forget to use pills**

143-Combination contraceptive act on : Ovulation
433- Which the following hormone suppress due to take oral contraception: GnRH (Gonadotropin-releasing hormone)
112-for female with DVT , combination contraceptive shouldn't be used (birth pills) . use only progesterone pills(levonorgestrel)
500-Use of combination OCs(Oral contraceptives) contraindicated in case of DVT(Deep vien thrombosis)
501-A woman had DVT and was treated a year ago ,now she wants to use oral contraceptive pills Levonorgestrel (or l-norgestrel or D-norgestrel)
606--for female with DVT, which is contraindicated...combined contraceptives (Estrogen containing contraceptive)
63-The summary of a case that woman suffers from pain in menses and during intercourse… which is finally found that she had something like a tumor or a solid mass …What is the best medication to fast relief her pain ?? **-Oral contraceptives**
83-A **menopause** woman takes **estrogen and progesterone** derivative replacement therapy… Which effect may be done due to this therapy? **increase thrombosis risk**
569-A 39 years old what is oral birth control pills appropriate for her -Ethinyl estradiol/Inestrenol (This ques. may be incomplete … if there is any of the following .contraindications of COCP the answer will be Levonorgestrel)
285- about sid effect of oral contraceptive except : a) Depressoin b) Hypertension c) constipation
172-estrogen antagonist and used first line in treatment of breast cancer tamoxifen
216-Which of the following used as anti estrogen when used cause abortion tamoxifin
48-mechanism of action of clomiphene : Inhibit negative feed back of estrogen
643-.Antiprogesterone cause abortion.. Mifepristone
212-ergot alkaloid used in Uterine stimulant
376- a pregnant woman at 43 week pregnancy She began labor actions for oxytocin

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21- Pregnant woman in her **43th** week and began her labor, the contractions were going good for 12 hours but in the last hour it decreased... So what medication you give her? **Oxytocin**

512- a postmenopause old woman suffering from facial flushing and vaginal drying She has done

hysterectomy procedure .which drug of the following should she use:estrogen
32-**A post menopause** old woman is suffering from facial flushing and vaginal drying. She has done **hysterectomy** procedure... Which drug of the following should she use? **estrogen**
623-A women takes estrogen and she made hysterectomy should take ? hydroxyprogestrone
631-.case has pain and solid tumor... Oral contraceptives .

29-A **pregnant** woman in her **9th** month, she has **hyperproteinemia** and **hypertension**... What is the recommended medication for her? **- Magnesium sulphate "Mgso4"**

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thyroid

217-which of the following can be used in treatment of hyperthyrodism ? potassium iodide
288- causes of hypo thyrodism : iodine deficiency , low hypothulmus&pituitary hormons
698-Hypothyrodism is caused by: 3-cushing syndrome

Osteo and rheoumatoid arthritis

- ✓ N.B: - **Osteoporosis** …. **Alendronate Na**
  - **Osteoporosis + Methotrexate** …. **Leflunomide**
  - **Osteoarthritis** ….. **Etanercept**
  - **Osteoarthritis + Methotrexate** …. **Etanercept** is the **first choice**, if not exist choose leflunomide

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81-etidronate used for osteoporosis or paget disease
167- an elderly women with osteoporosis after giving her Calcium + vitamin D she become better , so we give her in the next step : alendronate
388- a patient come to you taking alendronate , you advise him : take alendronate 1/2 hour before breakfast with water and stand upright for 1/2 hour
137-WHICH METAL USED IN TREATMENT OF RHEUMATOID ARTHIRITIS? GOLD
326- In the treatment of the osteoporosis, which of the following is not correct:
hormone replacement therapy (HRT) should be considered in all postmenopausalpatients with osteoporosis
NB: We use HRT when other ttt have failed .
549- old man have rheumatoid arthritis taking (methotrexate-ibuprofen -Losec) and these drugs were not effective , so the next step we use : Lefulonamide
628- Drug of choice for hemolytic anemia? Cortisone

8- F.A. is a 55-year-old woman with **rheumatoid arthritis**. On diagnosis 1 year ago, F.A. had an RF titer of 1:64 signs and symptoms of inflammation in the joints of both hands, and about 45 minutes of morning stiffness. She began therapy with **methotrexate**, and she is presently receiving 15 mg every week, **folic acid** 2 mg/day, ibuprofen 800 mg 3 times/day, and omeprazole 20 mg/day. At today's clinic visit, F.A. reports a **recurrence** of her symptoms. Radiographic evaluation of her hand joints shows **progression of joint space narrowing and bone erosion**. Which one of the following is the best next step in therapy for F.A.? **A. Administer etanercept. (Trade name Enbrel)**

Microbiology

Virology

---Live vaccine c/i with which of the following choose pt who have CDcount less than 200 .
63-acyclovir is used for herpes simplex
78-nevirapine is used for treatment of HIV (AIDS)
114-zanamivir is used for treatment and prophylaxis of influenza
232- Analogue for HIV zidovudine
442- Antiviral for HIV which nucleoside reverse transcriptase inhibitor zidovudine
118-ganciclovir(antiviral) used in treatment of cytomegalovirus
367- Hb1genotybe hepatic patient (hepatitis C genotype 1) fot ttt take ? -interferon and ribavirin
256- To know the severity of immunodeffiecency in HIV - CD4 count
227- Don't give vaccines to: Patients with CD4 < 200
446- One of the following is contraindication to all vaccines cd <200

75-A summary of a case that a pregnant woman suffers from a disease which related to **genital infections**… she does not have a job and she need **a cheap** and fast medication… What is the best for her? **Acyclovir 400 bid for 7 days**
2- All the following patients are seeing their pediatrician today and are due for immunizations on the basis of.the routine schedule. For which one of the following patients would it be best to recommend **deferring** immunizations until later? A. 12-month-old boy who recently completed a cycle of chemotherapy for acute lymphocytic leukemia.
B-6-month-old girl receiving amoxicillin for otitis media.

C -12-month-old HIV-positive boy who's most recent CD4 count was greater than 1000.
D-12-year-old girl completing a prednisone "burst" (1 mg/kg/day for 5 days) for asthma exacerbation

3-18 month-old baby with a history of **premature birth** and **chronic lung disease** is admitted to the pediatric intensive care unit with respiratory distress (requiring **intubation)**, **fever**, and a 3-day history of cold-like symptoms. A nasal swab is **positive for RSV**. Which one of the following is the best intervention? **Intravenous fluids and supportive care**

Immunology

Notes: Pregnant women should receive a dose of Tdap during each pregnancy, ideally between 27 and 36 weeks gestation. Tdap & Dtap are the same vaccines but Tdap is used for adult and pregnant , Dtap is used for (0-6) years old children.

- N.B: If a pregnant woman tests positive for hepatitis B, her newborn child must be given two shots in the delivery room: 1-The first dose of hepatitis B vaccine and one dose of hepatitis B immune globulin (HBIG).
2-The infant will need additional doses of hepatitis B vaccine at one and six months of age to provide complete protection

14-which of the following vaccines should be administerd for every pregnancy ? Tdap (tetaunes .. diaphtheria…pertussis)
158-live attenuated vaccine: measless,mumbs & rubella (MMR)
31-cyclosporin used as immunosuppressant after organ transplantation to reduce possibility of rejection of new organ by immune system
61-routine medication for influenza is influenza vaccine
123-Which of the following vaccine should be taken although you don't need it influenza vaccine
171-which vaccine should be taken every year influenza vaccine
105-influenza vaccine contraindicated in (0-6) months baby
109-influenza vaccine is safe for pregnant (IIV) Inactivated influenza vaccine is safe for pregnant
187-which of the following is more prone to influenza symptoms and problems pregnant
372- drug used for prevention of influenza vaccination
101-emergency members should take the following vaccine to avoid noscomial infection meningitis
487- Emergency staff's vaccine meningitis
204- 2 years old child come to clinic for taking hepatitis vaccine , we know that he took pneumonia vaccine from month ago , so we should : give him the vaccine immediately

18- A 2 years old child has taken **Hepatitis A** vaccine and came to take **MMR** vaccine: **Should take MMR vaccine immediately**

12- A 2 years old child came to clinic for taking **hepatitis A vaccine**, we know that he took **pneumonia** vaccine from month ago, so we should: **Give him the vaccine immediately**

394-Pregnant woman have hepatitis B when deliver we must give for baby? . Hepatitis B vaccine with immunoglobulin hepatitis.
471- A Child born to a hepatitis B positive mother must take a-first dose of the hepatitis B vaccine ….. b-one dose of the Hepatitis B Immune Globulin (HBIG). c- C. Both of them
516- a nurse was giving tratment to a hepatitisB patient when she infected with his blood , when she made analysis the result was HBSAG negative and HBSAB negative , so she should be treated with : give her immunoglublin + hepatitis B vaccine

14-A nurse was giving the medication to a **hepatitis B patient** when she got infected with his blood, when she made analysis the result was **HBSAG negative and HBSAB negative**, so she should be treated with: **Give her immunoglobulin + hepatitis B vaccine**

15-A pregnant woman has **hepatitis B** when she delivers we must give her baby: **Hepatitis B vaccine with immunoglobulin hepatitis.**
293- not from WBC reticleucyte
117-probiotics are bacteria and yeast eaten to provide patient with health
607-probiotics are ..... live yeast or bacteria

Antibiotics and bacteriology

- ✓ **Notes: Carbepenems (Imipenem, Meropenem, Doripenem) have the propensity to induce resistance during treatment & Fluoroquinolones (Ciprofloxacin, Levofloxacin) are the only class of antibiotics which has an oral formulation that is reliably active against P. aeruginosa**
- ✓ **Kidney damage and hearing loss(nephrotoxicity and ototoxicity) (as all aminoglycoside)**

- ✓ **N.B. Aminoglycoside cause ototoxicity& nephrotoxicity**
- ✓ **ceftazidime is 3rd generation cephalosporin**
- ✓ **Diphtheria is an upper respiratory tract illness (makes tough pharyngeal membrane) caused by Corynebacterium diphtheria**

42-drug of choice for pneumonia is pencillins
411-A pregnant women with syphilis should take ampicillin (Note : Pinicillin is the drug of choice for syphalis during pregnancy So if there is Pinicillin eg: Benethamine penicillin Benzylpenicillin in choices will be better
79-for otitis media in children use high dose of amoxicillin note :that if there is no (high dose of amoxicillin) choose (azithromycin)
403-A Child with otitis media ,,, high dose amoxicillin

22- 2 years old girl has otitis media, which medication is the best for her? **azithromycin**
Nb: A high dose of **AMOXICILLIN** is the antibiotic of **choice** in this case not ampicillin . if amoxicillin in not an option … choose **azithromycin**

234-antibiotic with diarrhea as a side effect Amoxicillin combination with clavunic
252- which antibiotic more likely to cause diarrhea Augmentin
578- Which of the following show penicillinase resistance -Flucloxacillin (floxacillin)
537- A pregnant women senstive to amoxicillin which is the Drug Of Choice for her disease ... what will be the suitable altrenative anti-biotic for her Erythromycin
55-drug of choice for pseudomonal aeruginosa is: meropenem
2-drug need dose adjustment in renal failure Impeniem/cilastatin
23- red man syndrome caused by : vancomycin
151- Cephalosporin act as:- Inhibitors of cell wall synthesis
605-.what is the b-lactam antibiotic, its mode of action is cell wall synthesis inhibitor cephalosporin
1- antibiotic needed in community acquired pneumonia which need hospitalization ceftriaxone +macrolid
NB if patient go to ICU ----- Ceftriaxone plus either a respiratory fuoroquinolone or azithromycin
531-Penciliins are similar in MOA AS: cephalexine
652-ceftriaxone "3rd generationcephalosporin
673-ceftazidime is third generation cephalosporin

625-the aminoglycoside? Antibiotic
370-Drug cause renal disease aminoglycosides
67-drug need serum creatinine to be monitored gentamycin (aminoglycoside)
644-.Drug known to cause kidney injury Aminoglycoside
95-mechanism of aminglycoside: protein synthesis inhibitor
428-drug need to monitor its plasma level Gentamycin
161- amikacin cause which of the following adverse effect nephrotoxicity
236- The most dangerous adverse effects of Amikacin is: (kidney disease)

21- gray baby syndrome caused by : chloramphenicol
334- which of the following is NOT macrolide antibiotic? chloramphenicol
49-rifampicin is used in : leprosy &tuberculosis
152- ISONIAZIDE used in Tuberculosis
110-clindamycin cause clostridium difficile
111-metronidazole used in treatment of clostridium difficile
58-antibiotic which cause yellow teeth tetracycline
135-Which of the following is released by bacterial cell wall during phagocytosis? Endotoxin
N.B: During infection or growth →exotoxin During phagocytosis→endotoxin
220-Release from bacteria during The growth : Exotoxin
141- Which organism is the cause of travelers' diarrhea :E.coli
269 -which one is more effective agaienst in traveller diarrhea: ciprofloxacin
426-The method most commonly used in the sterilization in our society Autoclave
671- method used in sterilization (autoclave was not in the choices: moist heat

parasitology

43-mechanism of action of choloroquine (anti malaria): choloroquine bind to heme and prevent it's polymerization to hemozin
93-drug of choice for tape worms : praziquantel or neclosamide
132-drug of choice for tape worms neclosamide (If praziquental is not an option .. choose Niclosamide
----Drug of choice in tape worms is (praziquantel).....if it is not available in choices choose (niclosamide) is an.

139- The antimalarial to be avoided in glucose-6-phosphate dehydrogenase deficiency:Primaquine
155- Which of following is the drug of choice for treatment of all forms of Schistosomiasis? Praziquantel
173-drug of choice for giardiasis and amoeba metronidazole
357- all these drugs used in ameobic dysentery exept gentamycin

Antifungal

54-amphotericin-b is parentral anti fungal
580- Pregnant woman has vaginal discharge and has Candida albicans what's the drug of choice? Clotrimazole
598- Treatment of Pregnant with vaginal candida clotrimazole

Pharmaceutics

Dosage forms and routes of administration

Descriptive Term	Parts of Solvent Required for 1 Part of Solute
Very soluble	Less than 1
Freely soluble	From 1 to 10
Soluble	From 10 to 30
Sparingly soluble	From 30 to 100
Slightly soluble	From 100 to 1000
Very slightly soluble	From 1000 to 10,000
Practically insoluble, or Insoluble	10,000 and over

Notes

- ✓ **Volatile liquid drug given as inhaler…….Amyl nitrite**
- ✓ **Note: Morphine can be taken also as: Oral, IM, Rectal**

64-albumin and dextran and starch are colloid solutions
134- Which of the following is colloid solution ? albumin
202-- another definition for a soluble solution : homogenous
259- A patient purchasing sublingual nitroglycerin tablets should be told to store the medication: in an amber glass bottle with a metal cap
340-protect from light" in usp means Amber glass (N.B: if the ques. asked about "InUSP " … the answer is Amber glass if not … the answer is " Light resistant container"
127- grinding of solid or powder in liquid or ointment is LEVIGATION
128-disintegration change the drug from tablet to final powder
688-Change the drug from tablet to final powder: Disintegration
303- The most common disintergrator in compressed tablets is Starch
352-most described dosage solid form: tablet
305-Gums are used in tabletting primarily as Binding agents
279- Adsorption , which is not true : a) Chemical property d) Irreversible e) A + d
313- Solid dosage forms are better than Solution dosage form because: a- Accurate dose b- Easy to handle c- More stable e- a&b and c
412- liquid dosage form differ from solid in ease to administation
319-Hypertonic solutions can be adjusted by: -Make dilution by add more solvent
637-The ability of liquid to dissolve in another liquid is called Miscibility
322-The following liquids are least likely to be miscible: - non-polar + polar
323- At 25° C, benzoic acid is much more soluble in benzene (C6H6) than it is in water. In this situation benzoic acid could be considered to be: C- Non-polar
254- If a drug has the same active ingredient like other drug but not contain the same inactive ingredient this mean-: pharmaceutical equivalent
600-.when you say on two drugs have the same bioequivalence -Pharmacokinetic parameters
N.B: pharmacokinetics: It is the way that body deal with the drug
284-to compare between 2 drugs use: c) Pharmacokinetic parametersif effect
d) Pharmacodynamic parameter (N.B: c and d are true .. in the exam must give one of them not both)
324- The following properties are similar for both solutions and suspensions:
A-The components of both solutions and suspensions can be separated from each other by physical

processes. .
B-Solutions and suspensions are composed of two or more components.
D-Both A and B
337- Very small molecule(1 part) soluble in more than 10,000 part of water insoluble
340-drugs have different crystal structures so different in polymorphism
343-suspension eye drop differ than ophthalmic solution in: a-less commonly used c- used for insoluble drugs d- a&c
703_ Ophthalmic preparation should have these properties except: -should contain preservative sitotosc
355- Controled released drug delivery depends on- Ready programmed&no influece of the body fluid
627-Aspartame is added to some preparation as sweeting agent
--Freeze drying is done by … >> Sublimation.
--Converting big fragments into small fragments is … >> Reduction
97-procss of using the drug is :ADMINSTRATION
450- One of the following is a component of drug processes: Administration
124- which of the following drug taken by inhalation Amyl nitrite or halothane
262- Which one of the following is taken orally - Estrogen gluconate
443-Route of administration of morphin and enoxaparin ?? Morphine IV ,,,,,EnoxparinSC

dermatology

150- Coal tar uses in (psoriasis)
496.benzyl benzoic acid use ? for ACNE
618-Normal water is used for which of these preparations? External preparations

Conversions

30-GRAIN= .065gram or 65mg

Abbreviations

OD meaning Once daily Mistaken as “right eye” (OD-oculus dexter), leading to oral liquid medications administered in the eye SO it can be fatal
QD (Every day), QOD (Every other day), Q1d (Daily) If any of them in
choices choose them ……. Because these abbreviations can be mistaken with QID (Four times daily).
-Considerable variation occurs in the use of capitalization, italicization and punctuation in abbreviations.
The following list shows the abbreviations that are not often encountered by pharmacists:
A, aa., or aa = of each ,dil = dilute , ad = to, up to D.C.,dc, or disc. = discontinue, a.d. = right ear , a.s. = left ear a.u. = each ear, both ears o.d. = right eye , o.l. or o.s. = left eye ,o.u. = each eye, both eye, disp. = dispense ,
ad lib = At pleasure freely, div. = divide, to be divided,, d.t.d. = give of such doses,, aq. = water,,
DW= distilled water, D5W= dextrose% in water, asa = aspirin ,e.m.p. = as directed ,et = and, ex aq. = in water
BP = British pharmacopeia, BSA = body surface area c.or c = with ,ft = make , amp. = ampoule ,
cap or caps = capsule, Inj. = injection , IM =intramuscular ,IV = intervenes,, Pulv. = powder,,
Gtt or gtt = drop, drops,, elix = elixir,, comp. = compound, compounded,, g or GM =gram , gr or gr = grain,,
gal = gallon,, Cc or cc. cubic centimeter ,oz. = ounce, M2 or m2 = square meter, µl or µL = microlitre,
Mcg, mcg or µg = microgram,, l or L = liter,, Lb = pound ,, mEq = milliequivalent,, mg = milligram
ml or Ml = milliliter fl or fld = fluid ,fl oz = fluid ounce ,dl or dL = deciliter ,cp = chest pain
D.A.W. described as written GI = gastrointestinal ,Non rep. = do not repeat H = hypodermic
NPO = nothing by mouth,N.S., NS = normal saline , ½ NS = half-strength normal saline
O = pint,,, IVP = intervenous push ,q.d.s = q.i.d = four times per day ,p.r = for the rectum
,qqh means every 4 hours IVPB = intervenous piggyback OTC = over the counter K =POTASSIUM
PDR = Physicians, Desk Reference µ = Greek mu
M = mix N & V = nausea & vomiting N.F. = National formulary Ppt = precipitated p.o. = by mouth
Pr = for rectum Pv = vagenal use Prn or p.r.n. = as needed Pt. = pint ante = before a.c. = before meals
p.c. = after meals h or hr. = hour q. = every q.h. = every hour q.d. =every day q.4 hr. = every 4 hours b.i.d. = twice daily a.m. = morning Noct. = night, in the night h.s. = at bed time

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11- p.r.n = when required (when needed)
44-P.C: after meal P.R.N: as needed A.c: before meal QID=QDS=4times daily
144- PPM mean:- part per million OR million part
153- The latin abbreviation for(state):- Immediately
395- According to FDA the most dangerous abbreviation that shouldn’t be written on prescription is??? Prn

396- 85 years man have pain in joint .. what the most dangours abbreviation put in prescription ? OD

Committees and drug productions

- ✓ **NB: c-pharmacoeconomics(cost)--- pharmacognosy(plants)**
- ✓ **A "meta-analysis" is a statistical approach to combine the data derived from a systematic-review. so the answer is meta analysis or systematic review .**

163- Pharmacy and therapeutic committee maintain of formulary of drug
540-Pharmacy and therapeutic committee management of the drug
177-how many phases applied to drug to be approved by FDA4phases
164 - When the pharmacopeia put the drug as phase 4 safety
389-when FDA needs more experiments, analysis and researches about a drug in phase 4 it means : need more researchs about saftey
166-which of the following used to deal with adverse drug effects pharmacovigilance(safty)
168- a study in which we use different studies to make a conclusion : meta analysis
meta analysis is not exist so will be the answer Systematic review
587- Studies in which data collected from different studies systematic review
Note : meta analysis is better answer if not exist the answer will be systematic review
179- FDA Fast Track what this mean: drug that shows promising results for life-threatening disease with NO others available can do that

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6-FDA Fast Track what this means: **A drug that shows promising results for life-threatening disease with NO others available can do that**

312- A hospital on formulating drugs, Efficacy, Work overload, and Costs are taken in concern. A, B, C, D, and E are antifungal drugs available in the market. All have the same efficacy. The hospital was using drug E for a period of time. According to the following data which drug is best to be used by the hospital: 2.25 BID 7 DAYS

pharmacy practice and laws

- ✓ **notes -if the priscribtion contain opoids the prescribtion must have Patient name**
- ✓ **•Levothyroxine is considered the treatment of choice for the control of hypothyroidism during pregnancy.**
- ✓ **•Due to alterations of endogenous maternal thyroid hormones, the levothyroxine dose may need to be increased during pregnancy and the dose usually needs to be decreased after delivery.**
- ✓ **(The label must contain the pt. name due to no other pt. take this drug ,,,,, Prescription must contain physician name)**

- ✓ N.B: Levothyroxine is taken on an empty stomach approximately half an hour to an hour before meals

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178-prescription label should contain physician name
242- The prescribion of drug should contain: prescriber name
201- if a medication error happened , the first person to refer to : prescriber
444-the LABEL of drug should has: Patient name
182- Unit dose cassettes in hospital has doses of: day
459-Benefits of using the unit- dose system: To decrease medication errors (dose errors)
245- Unit dose system in hospital : to decrease medication error
218--storage of narcotic prescriptions according to Saudi national regulations 36 months
219-You should keep the prescription of narcotics in the pharmacy for five years
241- The most error that may occur when a patient is transferred from one unit of facility to another Missing drug he was taking
257-The ethical principle of veracity requires that: we act with honesty, without deception.
260- Following the ethical principle of nonmaleficence requires that pharmacists: avoid, remove or prevent harm from people
258- The style of management in which the owner of a pharmacy emphasizes the development of detailed policies and written procedures for employees to observe at all times is referred to as: bureaucratic
263- The responsibility of pharmacist in hospital is deal with drug interaction
464- The task of pharmacists and medicine centers& hospitals Control formulary of drugs
310-Which one of the following cannot be dispensed without prescription: Doxycycline
435- A small group of medications in any health organization that medical staff deal with them in caution and their loss from the place cause a very serious problem so there is special way to store and dispense them High alert drugs
556- drugs that physician should care when using it low therapeutic index

238-Man came to ER vomiting and dizzy...after he ingested toxic dose of certain drug Which is the most important step? Watch the vital signs and Make them normal

436- Sign of shock: Hypoperfusion

528- month-old baby with a history of premature birth and chronic lung disease is admitted to the pediatric intensive care unit with respiratory distress requiring intubation; fever; and a 3-day history of cold-like symptoms. A nasal swab is positive for RSV. Which one of the following is the best intervention? D. Intravenous fluids and supportive care

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558- PQ is a 75 year old patient who has just been diagnosed with hypothyroidism. Her past medical history is significant for congestive heart failure, type 2 diabetes mellitus, osteoporosis and chronic stable angina, all of which are well-controlled. Her medications include: Metoprolol 25 mg bid Calcium carbonate 1250 mg bid Vitamin D 1000 IU daily Glyburide 2.5 mg bid Enalapril 10 mg bid Furosemide 40 mg daily Nitroglycerin SL spray prn

*PQ should be started on a low dose of levothyroxine because of her: age

Q- Appropriate counselling and follow-up for PQ with initiation of levothyroxine includes all of the following, EXCEPT: take levothyroxine on a full stomach for greater absorption.

Q- Which of the following parameters is the most appropriate for PQ's self-evaluation of the effectiveness of levothyroxine therapy? . Increased energy

---

635- a pregnant woman in her third week she take levothyroxine 100 mcg , you advise her : increase the dose of levothyroxine

calculations

266- Pka for normal water in room temperature : 14

375- Sodium bicarbonate antacid makes an out elimination of) pka=1.2, weak acid

361- Amount of water in adult male 60% female about 55%

-Vd=dose/co
-Vd = Volume of distribution
-Co = Conc. of drug in plasma at zero time
-Loading dose = Vd x Css
-Loading dose = Vd [C2 - C1]
- Loading dose:is the dose needed to reach steady state
- Css = Concentration of the drug in blood at steady state
- C1 = Concentration of the drug in plasma
- C2 = Concentration of the drug needed to add to C1 to reach equired conc

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At steady state rate of drug input=rate of elimination

- Time required to reach steady state (Tss) = 4.5 or 5 t1/2

-Half life (T1/2) = the time required for the concentration of a substance in the body to decrease by half.

-Therapeutic index (TI) =LD50/ED50

- LD50 = Median Lethal Dose is the amount of an agent that is sufficient to kill 50 percent of a population of animals
-ED50 = Median Effective Dose is the dose that produces a quantal effect in 50% of the population
- Drugs with narrow TI = highly dangerous

- Bioavailability =AUC/conc

Bioavailability = AUC ((oral)) /AUC ((iv)) x 100
Bioavailability =plasma conc of drug by any route/plasma conc of drug by iv AUC = Area Under Curve

---

-Specific gravity = Wt. of substance ((Kg)) / Wt. of equal amount of water ((L))
-Specific gravity = mass unit volume of sub. / mass unit volume.of water
-Specific gravity = Denisty of sub. / Denisty of equal amount of water
-Denisty = Mass ((gm)) / Volume ((ml)) .. or Kg/L

- mEq = Wt. ((mg)) x valency / M.wt
- mEq = milliequivalent

Clearance Laws:

-Clearance (Cls) = 0.693 x Vd / T 1/2

Vd=dose/co

- Cls=rate of elimination/drug conc

-Cls =renal cls +non renal cls
-Cls = Ke x Vd ……. Ke = elimination rate conistant
Creatinine clearance for male =(140 - age)x weight /72 x ser. Creatinine
-Cr.cls for female = Cr.cls for male x 0.85

Molality Laws :

-Molality ((m)) = No. of moles of solute / Kg mass of solvent

- No. of moles = Wt. of solute / M.wt

- Mass ((M)) = Denisty ((D)) x Volume ((V))

Molarity Laws :

-Molarity ((M)) = No. of moles of solute / L volume of solution

---

Osmolarity laws:

- Millimoles = [wt. of sub. ((gm)) / M.wt] x 1000 ☐

-mosm = millimoles x no. of species

Examples Of no. of species:
Ex1: NaCl = 1 Na + 1 Cl = 2 -------- Ex2: CaCl2 = 1 Ca + 2 Cl = 3
--- check problems No. 11 & 12

Some conversions

Kg = 2.2 Pound ((lb))	Tempreture:
Grain = 0.065gm	F = Fehrenhiet – C = clsius
Tea spoonful ((tsp)) = 5 ml	5F = 9C + 160
Table spoonfull ((tbsp)) = 15 ml	Length: 1foot ((ft)) = 12 inch
16 drop ((dp)) = 1 ml	1inch =2.54 cm
1 fluid ounce = 30 ml	PPM = Part Per Milion = mg / L
1 L = 0.22 Gallon	
1 L = 10 Decilitre	

Some Molculer weights you may use:

HCl = 36.4	Kcl = 74.5
NaCl = 58.5	NH4Cl = 53.5
CaCl2 = 111	MgCl2 = 95.2

-10% w/w = 10 gm in 90 gm
((total wt. = 100 gm)) --------- w/w = gm in gm

-10% w/v = 10 gm in 100 ml
((total voume = 100 ml)) --------- w/v = gm in ml

- 10% v/v = 10 ml in 90 ml
((total voume = 100 ml)) ---------- v/v = ml in ml

Some other laws haven't be used till now but may be useful for you ((just read)) :
-Child dose = wt ((lb)) / 150 x adult dose
- Child dose = age / (age+12) x adult dose
- E = Extraction ration = drug elimination of an organ eg. ((Liver)).
-E = [arterial drug conc. - venous drug conc.] / arterial drug conc.
Cls of liver = E x hepatic blood flow .

1- amount of drug is 5 mg in 1 ml what the amount of drug in 1 tsp in microgram 25000 Answer: 1 tsp = 5 ml 5 mg …. 1 ml X mg …. 5 ml X = 5 x 5/1 = 25 mg = (25 x 1000) 25000 mcg	3-5ml of injection that conc. 0.4% calculate the amount of drug? 20mg Answer: 0.4 gm … 100 ml X gm … 5 ml X = 5 x 0.4/100 = 0.02 gm = (0.02 x 1000) = 20 mg
2- A solution is made by dissolving 17.52 g of NaCl exactly 2000 ml. What is the molarity of this solution? 0.15 Answer: Molarity=mole/volume (L) 1 Mole=molecular weight of subs. In 1 grams No of Moles = wt / Mwt So, molecular weight of NACL=23+34=57 So, Mole=17.52/57=0.307 So, Morality=0.307/2=0.153	4-An elixir contains 0.1 mg of drug X per ml. HOW many micrograms are there in one tsp of the elixir 500 micrograms Answer : 0.1 mg in 1 ml X mg in 5 ml X = 0.1×5 /1 = 0.5 mg = 500 micro
5- sol contain D5W another one contain D50W we want to prepare sol cotain D15W its volune is 450ml ... how much ml we need of each sol D50w/D5w=10/35 Answer: try the choices ratio in the equation : (C1 × V1) + (C2 × V2) = (C × V) (50 × 10) + (5 × 35) = (15 × 45) Another answer : (X) 50 ---------- 10 15 - 5 = 10 15 (Y) 5 ---------- 35 50 - 15 = 35 X / Y = 10 / 35 ---------- Y = 3.5 X X + Y = 450 ---------- X + 3.5 X = 450 4.5 X = 450 --------- X = 450 /4.5 = 100 Y = 3.5 X = 3.5 x 100 = 350 X = amount of D50w …. Y = amount of D5w	6- prescription hydrocortisone 2% Cold cream60gm You have concentrations of hydrocortisone 2.5% & 1% how many grams will you use from two concentration? 20gm from 1% and 40gm from 2.5% Answer: try the choices ratio in the equation (C1 × V1) + (C2 × V2) = (C × V) (1 × 20) + (2.5 × 40) = (2 × 60) Another answer : (X) 2.5% ---------- 1 2 - 1 = 1 2% (Y) 1% ---------- 0.5 2.5 - 2 = 0.5 X / Y = 1 / 0.5 ---------- X = 0.5 Y X + Y = 60 -------- 0.5 Y + Y = 60 1.5 Y = 60 ---------- Y = 60 /1.5 = 40 X = 0.5 Y = 0.5 x 40 = 20 X = amount of 2.5 % …. Y = amount of 1%
7-Prescription hydrocortisone 2% w/w Cold cream 60gm you have hydrocortisone solu. 100 mg/ml .. how many milliliters will you use from the solution ? 20 ml Answer : 2% w/w = 2% x 100gm = 2 gm means the prep. needs 2 gm of hydrocortisone 0.1 gm in 1 ml 2 gm in X ml X = 1 x 2/0.1 = 20 ml	8- if we have 0.8687g cacl2 in 500 ml solvent , denisty of the solvent is 0.95 g\cm3. Find the molality 0.0165 Molal Answer : Moles = mass/m.wt = 0.8687 / 111 = 0.00782 Weight = density × volume = 0.95 × 500 = 475 gm = 0.475 kg Molality = moles / kg of solvent = 0.00782/0.475 = 0.0165 molal
9. How gm of substance X must added to 2000 gm of 10% substance X solution in order to prepare 25% of substance x solution 400 gm Answer: (C1 × V1) + (C2 × V2) = (C × V) (100% × Xgm) + (10% × 2000 gm) = (25% × 2000+X gm) 100X + 20,000 = 50,000 + 25X 100X - 25X = 50,000 - 20,000 75X = 30,000 ..... X = 30,000/75 = 400 gm Another answer : 100% ---------- 15 25 - 10 = 15 25% 10% ---------- 75 100 - 25 = 75 so the ratio between 100% : 10 % to reach 25% = 15 : 75 2000 gm ------ 75	11-How many mOsm are present in 1 liter of sodium chloride injection (Mwt: sodium chloride= 58.5) ? 308 mosm Answer : Note ; normally conc. of NaCl injection = 0.9% that means 0.9 gm in 100 ml that means 9 gm in 1 L ……Step 1. millimoles = wt (gm) / Mwt (gm) × 1000 = 9 /58.5 ×1000 = 154 Note ; millimole = wt (mg) / Mwt (gm) ……Step 2. mOsm = millimoles x no. of dissosation particles =154 × 2 =308 mosm

X gm ---------- 15
X = 2000 x 15 / 75 = 400 gm

10- How much water (in milliliters) should be added to 250 mL of 1:500 w/v solution of benzalkonium chloride to make a 1:2000 w/v solution 0.4L

Answer:

250/500 = 0.5
250/2000 = 0.125
0.5 - 0.125 = 0.375

15. how many gm of water add to 5% KCL soln to make 180 gm of solution(w\w)? 171 gm

Answer:

5gm----------100
Xgm----------180
X= 5x180/100=9 gm
So, the amount of water is:- 180 - 9 =171 gm

12-A solution contains 448 mg of KCl (MW=74.5) and 468 mg of NaCl (MW = 58.5) in 500mL. What is the osmolar conc. of this solution ? 0.056 Osm/l

Answer :

-For (KCl) : 0.448 gm in 500ml

X gm in 1000 ml X= 0.896 gm
moles= 0.896/74.5 = 0.012
Osm= moles × no. of dissosation particles =0.012 × 2= 0.024

- For NaCl

0.468 gm in 500 ml
X gm in 1000 ml X= 0.936 gm
moles= 0.936 /58.5 = 0.016
Osm= 0.016 × 2= 0.032
Total osmalar conc. of sol. = 0.032 + 0.024 = 0.056 Osm/l

16.hypoparathyroid patient with tingling and numbness has the following lab result so what is value of calcium correlative to albumin when below 45

	Result	Normal
Calcium	1.6	2.25-2.6
Albumin	34	18-56

Answer is 2.3
N.B: 2.3 is a Conistant value you have to know

13. A Patient weighting 80 Kg is supposed to receive a drug at a dose of 2mg/kg/day. What is the dose that the patient should take for each day: 160 mg

14. Drug X is a given to a 70 Kg patient at an infusion rate of 0.95 mg/kg/hr. How much drug we need for a 12-hr infusion bottle 798 mg

17. in clinic patient prescriped with a 500mg dose of aspirin , initial plasma conc is 100mg .. With half life 6 hours calculate total body clearance ? 0.5 L/hr

Answer: Vd = dose / initial conc = 500/ 100 = 5L
..... T1-2 = 6 hr
Cl = 0.693 Vd / T1-2 = 0.693 × 5 / 6 = 0.5775 L/hr

18. - aminophylline (80%theophylline) was prescriped for asthmatic patient in a dose of 500mg , half life =6.93 hours how many hours will it take to reach below 2 % ? 42 hr

Answer:

(80%) ...T1... (40%) ...T2... (20%) ...T3... (10%) ...T4... (5%) ...T5... (2.5%) ...T6... (1.25%)
Time = 6 × T1/2 = 6 × 6.93 = 41.5 hr

19. Drug aminophylline (80% theophylline) in 500ml sln . Half life 6 h .what is the concn of theophylline after 1 day ? 5%

Answer:

1 day = 24 hr = 4 T1-2
(80%) ..... T1... (40%) ...T2... (20%) ...T3... (10%) ...T4... (5%)

20.For 1 litre of NaCl 3% calculate the osmolarity m.wt=58.5 ???? 1026

Answer:
3% means 3gm in 100 ml ... that means 30gm in 1L
No. of moles = wt / Mwt = 30 / 58.5 = 0.513 mole
Osm = no. of mole × no. of dissosation particles = 0.513 × 2 = 1.026
1.026 x 1000 = 1026 mosm

21. If we give 250 ml of a drug and the area under curve was 112mg/hr/L and after that we give 500 ml and the area under curve was 56 mg/hr/ml
The bioavilability decreased by 25%

Answer: 250ml 112
500 ml X so X = 122×500 / 250 = 224
But real auc was = 56

drug A taken IV and drug B taken orally the AUC of A =300 and Auc of b =225
what is biovalbility of drug 75%

Answer:

Bioavailability= auc oral /auc iv ×100 = 225/300 × 100 = 75%

So the bioavilability decreasing = 56/224 ×100 = 25%	
26. A patient takes levofloxacin 250mg/ml , the pharmacist has levoflaxacin injection 500mg / 20 ml , the concentration needs to be dilated for patient .. which of the following concentration is more accurate: 10 ml Answer : 500 mg in 20 ml 250 mg in X …… so X = 20 x 250 / 500 = 10 ml	a drug is given as iv infusion in a rate of 2mg/hr ,its T1-2 = 2hr , how much mg of the drug we need to reach steady state 20mg Answer : We reach steady state after 5 T1-2 = 5 × 2 = 10hr 2mg ...ever... 1 hr Xmg ...after... 10 hr X = 2×10/1 = 20mg
23.T 1/2 .. in frist line is 0.693/ k	25. a drug with T1/2 = 72hr , the body will recive complete dose after ; 2weeks Ans: We will reach Steady state after 5 half-life = 5×72= 360hr = 2weeks
27. priscription for a child contain Omeprazol syr. 10 mg/ml twice daily for a week .. you have Omeprazol capsul 20 mg in your pharmacy, how many capsules are needed to prepare solution with concantration 2 mg/ml ?? 7 cap. Answer: 10 mg/ml twice daily for a week = 140 20 _____1 140 _____ X X=140/20=7	28.Drug 500mg and 300mg eleminated outside the body and t1/2=5hr and another drug same first one but with conc 1000mg .. how many hrs it take to eliminate 600mg ot of the body? 5 hrs Answer : CLs=rate of elimination /drug conc CLs1=300/500=0.6 Vd=t1/2×cls/0.693=5×0.6/0.693=4.3 CLs2=600/1000=0.6 t1/2=0.693×vd/cls=0.693×4.3/0.6=5 hrs
29. HOW can prepare 100 ml of 12% MgCl by taking? a-12ml of MGCL dissolve in 100 ml water ? 12 gm of MGCL dissolve in 100 ml water Note ; w/v = g/ml ..... ex ; 4% w/v means 4 gm in 100 ml	30. man 40 years and 80 kg sr ce 0.5 mg\dl find creatinie clearance mg\ml : 222 Answer : Cr.cl for male = (140 - age)x weight /72 x ser. Creatinine =(140 - 40) x 80 / 72 x 0.5 = 222 N.B : The same data for female the answer is : 189 Cr.cl for female = Cr.cl for male x 0.85 = 222 x 0.85 = 188.7
31.15 g of drug is added in 150mg of a solvent. Then what is the total concentration of drug in the final mixture: 9.10% Answer: 15 + 150 = 165 15 g in 165 X g in 100 X = 100 x 15 / 165 = 9.10	32. A bag containing 250 ml of 25000 IU heparin The patient weigh 70 kg should receive 10 IU/kg/hr ...calculate the amount in ml the the patient should recieve in one hour... 7 ml Answer: 10 iu for 1 kg X iu for 70 kg X = 70 x 10 /1 = 700 iu 250 ml of 25000 iu X ml of 700 iu X = 700 x 250 / 25000 = 7 ml
33.Patient with prescription of Captopril 50 mg per tab with a dose of 100 mg daily for 4days and you only have the 25 mg tab .. How many tablets you will dispense ? 16 Tab Answer : 100 mg daily for 4 days = 400 mg 400/25 = 16 tab	34.A problem with the following data Dose = 1000 Initial conc =10 Elimination rate constant=0.1 Calculate total clearance ?? 10 litre Answer: Cl= vd × kel Vd=dose/conc=1000/10=100 Cl=0.1×100=10
35.Problem with the following data : Density = 1.75 g/cm^3 Mass = 15 gm Calculate the Volume ? 8.52 Answer: Denisty = mass / volume	36.Prescription contain : Clindamycin 1.5% dilultion with alcohol up to 300 ml you have a bottle 100 ml of 10% clindamycin how many millelitres will you use 45 Answer: 1.5 100 X 300 so X=4.5 10 100

volume = 15 / 1.75 = 8.57	4.5 X so X=45
37.A drug with Conc. 400 m and T1/2 = 12 hr.s the concentration will decrease after 1 day by ... 75% Answer: 24 hr.s = 2 half lives (400) …T1 … (200) … T2 … (100) so you lose 300 of the drug (300 / 400) x 100 = 75%	38. A drug should be given 50 ml of 2 meq/ml , but available concentration is 10 meq/ml, How many ml should dispense to patient? 10 ml Answer: 2mg -----1ml X mg-----50ml X = 50 x 2 =100ml 10mg-------1ml 100 mg------ X X = 100 x 1 / 10 =10 ml
39. 30gm of 1% hydrocortisone mixed with 40 gm 2.5% hydrocortisonen what is the concentration of the resulting solution? 1.85% Answer : C1.V1 + C2.V2 = C3.V3 30gm × 1% = 0.3gm 40gm × 2.5% = 1gm So, 1.3 gm is in 70 gm So, the con. =1.3/70=1.857%	40. if we have 90% of substance X solution , 50% of substance X solution , how mixing both to give 80% of substance X solution ? 3 : 1 Answer : We should try all answer with that equation (C1×V1) + (C2×V2) = (C×V) (90% × 3) + (50% × 1) = (80% × 4) (270) + (50)=(320) (320) = (320) so the answer is 80% Another answer : 90% 50% 80% 30 10 So .. 90/50 to reach 80 % equal 30/10 = 3/1
41. - prep. contain coal tar 30 part ... petroleum 15 part ... adeq. to 150 part ... what conc. of coal tar in 500 ml: 100 part Answer: 30 part present in 150ml of prep. X part present in 500ml of prep. so, conc. of coal tar in 500ml=30x500/150= 100 part	42.How many grams needed from drug in one teaspoonful , if 5 tspfull doses contain 7.5 gm of drug 1.5 Answer: 7.5gm in 5 tsp X gm in 1 tsp X = 7.5×1 /5 = 1.5 gm N.B: 1 tsp = 5 ml
43.KI solu. has 0.5mg/ml dissolve in 30ml water calculate the amount of KI in the solu. ? 15mg Answer : 0.5 mg in 1 ml X mg in 30 ml X= 0.5×30 /1 = 15 mg	44. - the dose of drug is 0.5ml per day and the total amount of the drug Is 100ml what is the total dose ? 200 Answer : no. of doses = amount of drug / amount of one dose = 100/0.5= 200
45.if we have a solvent costs 150 riyal/kg and its specific gravity =1.07 ,so the cost for 100ml of the solvent is : 16.05 riyal answer : Weight (Kg) = volume (L) × sp. Gravity …….. 100 ml = 0.1 L wt = 0.1 × 1.07 = 0.107 Kg 1 kg cost 150 riyal 0.107 kg cost X riyal X = 0.107×150 /1 = 16.05 riyal	46- A patient cholesterol level is equal to 4mM/L. This cholesterol level can be expressed in terms of mg/dL (molecular weight of cholesterol = 386) 154 mg/dL Answer : Conversion from (mM) to (mg) = conc. × molecular weight Conversion from (L) to (dL) = conc. / 10 Conc (mg/dl) = conc. (mMol /L) × mwt / 10 = 4×386 /10=154.4
47.drug container contain 90 mg each tablet contain 0.75mg. how many doses ? No. of doses = total wt / wt of one dose = 90 / 0.75 = 120 dose	48- How need prepare benzacainamid conc. 1:1000 ,30cc of benzocainamid solution? 30 mg Note : cc = cubic centimeter = cm^3 = ml answer : 1gm-----1000ml X gm ----- 30 ml X = 30 x 1 / 1000 = 0.03 gm = 30 mg
49. The Molal concentration of 0.559 M solution is ; (Mwt=331.23 g/mol) (density of solution =1.157g/ml) 0.575 Answer : Mass = moles × Mwt = 0.559 × 331.23 = 185.15 gm wt of solution = Volume × Destiny = 1000 ml ×	50.Problem asked to calculate Plasma Osmolarity an you have given some data Na 140 ,Cl 103 ,Hco3 18 ,Bun 8 ,S.cl 8 Answer is 263 N.B: the data of this problem isn't complete here .. 263 is the right answer just know it

1.157=1157 gm
so wt of solvent = 1157 - 185.15 = 971.85gm = 0.971 kg
molality = moles / kg of solvent = 0.559 / 0.971= 0.575 molal

-in general .. to calculate plasma osmolarity follow this equation : 2[Na] +[Glucose]/18 +[BUN]/2.8

51. drug decrease after 2hr to 50% &the user takes it every 2 hr how many hours needed to reach steady state ? 10-12
Answer:
Time to reach steady state ((Tss)) = 4 to 5 T1/2
4 x 2 = 8 ….. 5 x 2 = 10
N.B: if there is ((8-10)) if choices … choose it

52. 10g of a drug was dissolved in 150g of solvent, what is the final concentration? 6.25%
Answer:
10…160
X …. 100
X = 100 x 10 / 160 = 6.25 %

53.A physician prescribed paracetamol 120mg/5ml to take 10ml every 8 hours but the pharmacist has only paracetamol 160mg/5ml . what is the volume to be administered to give the effect of the first dose:7.5ml
Answer: dose = 240 mg paracetamol
160 mg in 5 ml
240 mg in X ml
X = 240 x 5 / 160 = 7.5 ml

54.A drug with conc. 100 mg/ml .. after 1 hr. it decreased to 50 mg/ml .. calculate its concantraion after 3 hours : 12.5
Answer :
100 .. [1hr] .. 50 .. [2hr] .. 25 .. [3hr] .. 12.5

55. how many gm of water add to 5% KCL soln to make 100 gm of solution (w\w) ? 95gm
N.B: 5% (w/w) means 5gm of KCl in 95gm of water and solution total wt=100

56. 1000 mg of drug follow one compartment.. calculate vd ?

Time	0 hr	2 hrs	4 hrs	6 hrs	12 hrs
Conc	80	58	34	28	10

12.5 litre
Answer : Vd = dose / initial conc.
Vd = 1000 / 80 = 12.5 L

57. Drug dose 1000 mg orally

Time	0 hr	2 hr.s	4 hr.s
Conc	40	18	8

What is the Vd of the drug ? 25 litre
Answer: Vd= 1000/40 = 25 L

58. HOW can prepare 100 ml of 12% MgCl by taking?
12 gm of MgCl dissolve in 100 ml water

59. How many grams of drug used to prepare 150 ml solution ,, if one tsp contains 7.5 mg of drug
0.225 gm
Answer:
7.5 mg in 5 ml
X mg in 150 ml
X = 150 x 7.50 / 5 = 225 mg = ((225/1000)) 0.225 gm

60. Patient takes dose 20 mg/kg/day
what is the dose if patient weight 60 pound ?
545 mg/day
Answer:
you have to know .. 1 kg = 2.2 pound (lb)
20 mg -------- 2.2 lb
X mg ---------- 60
X = 60 x 20 / 2.2 = 545.45 mg/day

61.A child was prisciped a drug with dose 65 mg/kg/hr .. his body weight =
35.2 pound ,,,,Calculate the dose .. 1.040 gm
Answer:
35.2 pound = 15.97 kg = about 16 kg
65mg…1kg
X mg … 16 kg
X = 16 x 65 = 1040 mg = 1.040 gm

62.Calculate the Specific gravity of a substance of volume = 121.92 ml & wt = 107.5
0.88 s.g.
Answer:
Denisty = wt. / volume
= 107.5 / 0.12192 = 881.7
Sp. Gravity = denisty Of substance / den. Of water = 881.7 / 1000 = 0.88

63. The ppm concentration of a 6.35x1 0-6M solution of sucrose (Mwt of sucrose is 342.3 g/mole) is: 2.174 ppm
Answer :
ppm concentration = mass in mg / volume in liters
Molar conc means no. of mole in 1 liter,,,then volume= 1L
mass = moles × Mwt = 6.35x10-6 x 342.3 = 2.174x10 3gm = 2.174 mg Then 2.174 mg is in 1L = 2.174 ppm

64. A 500 infusion bottle contains 11.729 mg of potassium chloride (KCl). How many mEq of KCl are present? (Mwt of KCl = 74.6)
0.1571 mEq
Answer :
mEq = wt (mg) × valency / Mwt = 11.729 ×1 / 74.6 mEq = 0.1572

65. Fifty micrograms equals: a-50000 (nanograms)

66. a 2 mg/L solution , according ppm 2 ppm

b- 0.05 (milligrams) d- a and b
Note; ... mc-g = 1000 nano-g ... milli-g = 1000 mc-g ... g = 1000 mg

Note ; ppm = mg / L
ppm : part per milion

67. What is The Specific gravity of substance has Weight=Y & The volume is X ? Y/X
Answer :
The Specific gravity =Density of the substance/Density of water
Density of water = 1 ..... Density of substance = weight/volume
So, the sp. gravity of sub. =weight (Y) /volume(X)/1 = Y/X

68. drug decrease to 50% of its plasma conc. after 2hr .. we have dose A
given each 2hr and dose B given each 4 hour … in dose B what is the plasma conc. at steady state ? 0.5

69.Calculate C av .ss 1gm vancomycin for patient 78 kg Taken by infusion rate 12 hr /7 day
T 1/2 =8
Vd = 1 k/l
A. 3
B. 5
C.17
D.19
We can't find the right answer .. try to solve it ☐

70.Paitents on treatment with acyclovir and famcyclovir .. group that treated by acyclovir show recurrence by 27% and who treated by famcyclovir show recurrence by 25%
the ques. is how many patients should take famcyclovir over than who take acyclovir per year to reach equivilant results ?
The answer is : cannot be calculated because of low information

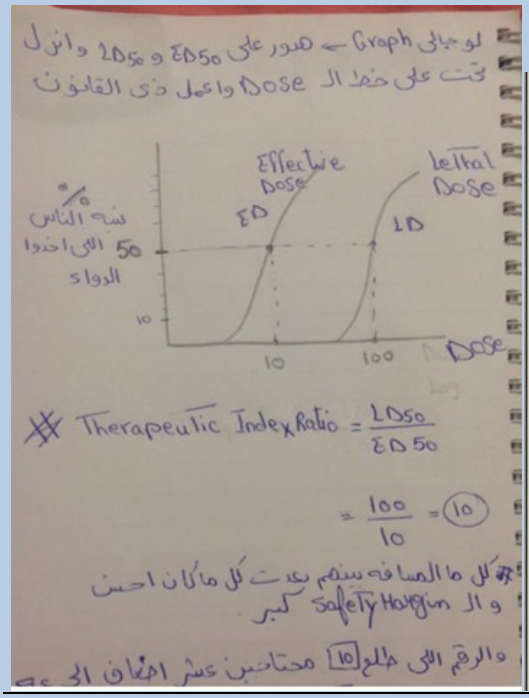
71.Patient's dose of some drug is 0.5 mg daily and Vd = 500 L .. his body elimination rate is 110.16 Litre per day … in the last day about 80 % of the drug was in his blood ,Calculate half life .. 3 days
Answer:
Cl=0.693 x vd / T1.5
T1/2 = 0.639 x 500 / 110.16 = 3.14 day

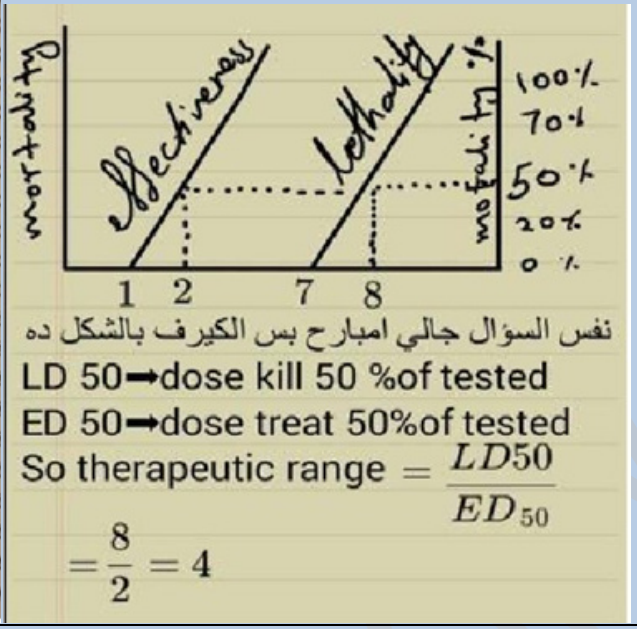
72.Problem with data : drug 10 mg/ml and t1/2= 3 hrs how much hrs needed to reach steady state??
12 - 15
Answer:
Time required to reach steady state (Tss) = 4 - 5 t1/2
4x3=12 ……. 5x3=15

73. drug t1/2= 2h .. dose A taken every 2h and dose B taken every 4h compare plasma concentration a to b
2

74. A half life of a drug decrease by 50% , after how hours will the time needed to decrease to 2% 12
Answer :
100% .. [T1] .. 50% .. [T2] .. 25% .. [T3] .. 12.5% .. [T4] .. 6.25% .. [T5] .. 3.1% .. [T6]
1.5% so we need 6 half lives to reach below 2%
T1/2 = 2 h.
2 x 6 = 12 h.

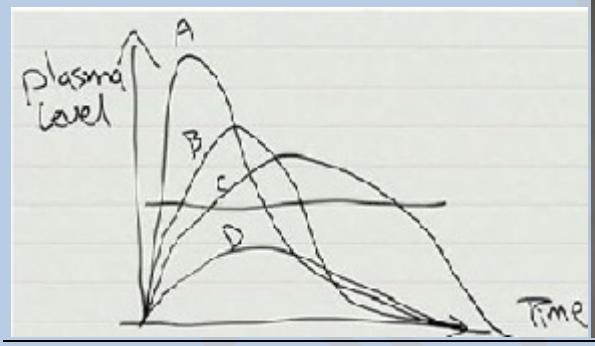
75.A problem with thin curve and ask for therapeutic range answer : 8/2 = 4
- in other exams the same curve with LD50 = 20 & ED50 = 5 so TI = LD50/ED50 = 20/5 = 4

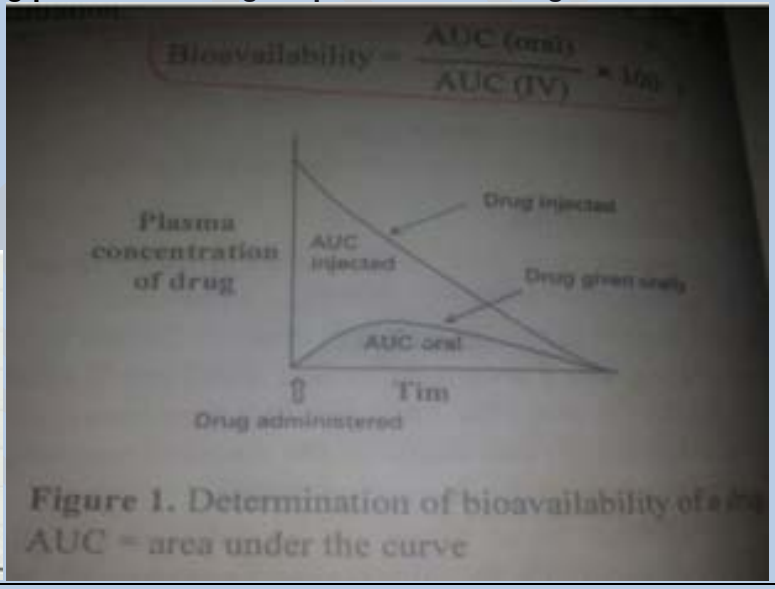




76.which drug has higher bioavailability ? A

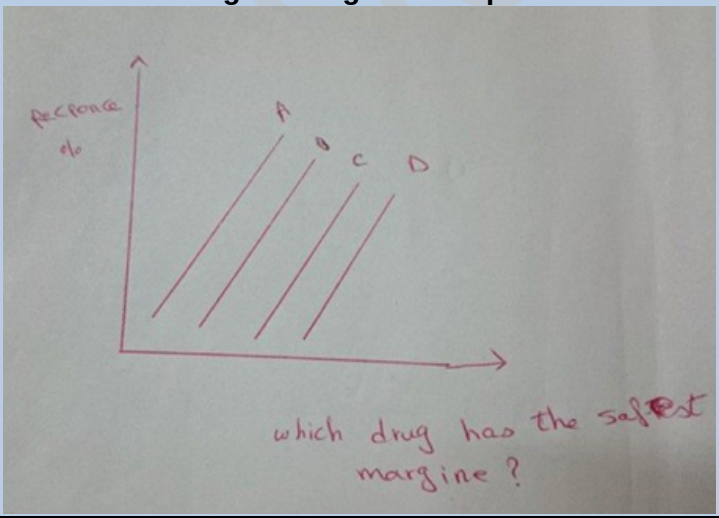
N.B : bioavilability measured by comparing plasma level higher plasma level = higher bioavailability

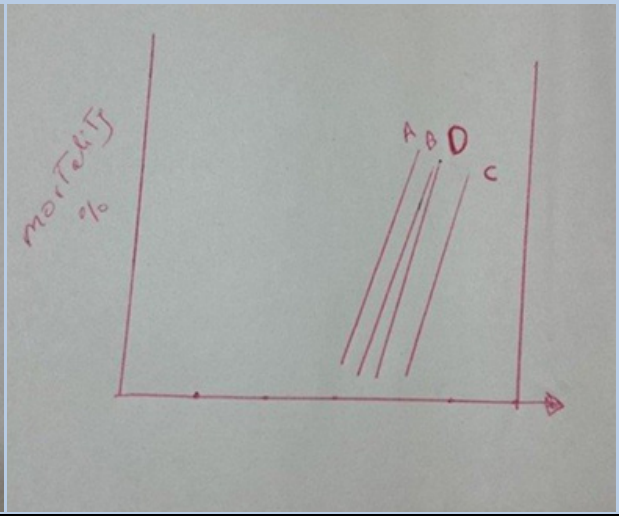




77.Which drug of the following has the safest margine ? A

N.B : safest margine = higher therapeutic index





Summary of the important problems :

1.Molarity of 17.52 NaCl solution : 0.15	10.Crcl of Male, 40 y, 80 kg with Scr: 0.5 mg/dL: 222ml/min
2.Cold cream with two concentrations : 20gm from 1% and 40gm from 2.5%	11.the same problem but for female : 189ml/min
3.Cold cream ((how many ml uses)) : 20 ml	12.Heparin bag : 7 ml
4.Ca correvted to albumin : 2.3	13.Captopril : 16 tablets
5.Osmolarity of NaCl : 1026	14.Clindamycin : 45
6.AUC bioavailability ((112, 500)) : 25%	15. Plasma Osmolarity : 263
7.AUC bioavailability ((300, 225)) : 75%	16.Paracetamol : 7.5 ml
8.Levofloxacin : 10 ml	17 .gm of water add to 5% KCL ((w/w)) : 95 gm
9. Omeprazol : 7 cap.	

Pharmacokinetics

Introduction

- ✓ Notes
- ✓ Note : Vd= total amount of drug in the body / drug plasma conc
- ✓ to reach STEADT STATE for drug follows 1st order it depends on rate of elimination
- ✓ Vd = total amount of drug in the body / drug in plasma conc so vd = increase conc in tissue + decrease conc in plasma
- ✓ Clearance is defined as the rate of drug elimination divided by the plasma concentration of the drug.
- ✓ Note:f or a drug with one-compartment characteristics, the time to reach steady state is independent of the dose, the number of doses administered, and the dosing interval, but it is directly proportional to the half-life.
- ✓ -Therapeutic ratio=TD50/ED50 ,The larger the therapeutic index (TI), the safer the drug is. If the TI is
- ✓ small (the difference between the two concentrations is very small), the drug must be dosed carefully and the person receiving the drug should be monitored closely for any signs of drug toxicity.
- ✓ Note : - Black patients have low renin than normal
- ✓ -ACEI (lisinopril) causes angioedema more in african americans if no ethnicity in choices .. choose Drug combination
- ✓ Linear pharmacokinetics is so-called because the graph of the relationship between the various factors.involved (dose, blood plasma concentrations, elimination, etc.) gives straight or an approximation to one. For drugs to be effective they need to be able to move rapidly from blood plasma to other body fluids and tissues.
- ✓ -The parameter describing dissociation in solution: pka

Absorption :

572-PH measures: acidity
557- First-Pass Effect Blood that perfuses virtually all the gastrointestinal tissues passes through the liver by means of the hepatic portal vein.
575-Bioavailbility Area under the curve
281-which of the following decrease gastric emptying rate: b- atropine c- hypothyroidism d-b&c
320-enteroHepatic recycling depend on all of the following except: extent of drug absorption from stomach
409- Bioavailability refers to the extent and rate at which the active moiety (drug or metabolite) enters: systemic circulation (the site of action)
510- Obese patient what the effect of obesity on absorption of lipid soluble drug no effect
N.B no effect on absorption but increase volum of distribution

1- 85 year-old woman is taking ferrous sulfate to treat an iron deficiency anemia. Changes in which one of the following pharmacokinetic properties associated with aging can most affect this agent? Absorption

Distribution :

681- Obese patient what the effect of obesity on distribution of lipid soluble drug increase
197--Drug with high Distribution Volume , What Means : conc. of drug in tissues is higher than that in plasma
237-45 year old man his volume of distribution is 35 L what the interpretation drug is highly distributed in.plasma
264- Plasma conc. Of drug in all body is rate of distribution

280- about steady state concentration during IV administration : c-directly proportional to infusion rate … d- inversly proportional to total body clearance e- c&d
253-Drug stored in the body in a- fat b- protein e- A&B (If youdon't have "a&b" … the answer will be "fat"

Metabolism

147- Drug after metabolized in liver it will become:- polar
278- process require CYP450 : Oxidation
368- metabolism in intestine …. Hydrolysis
350- enzyme kinetics law: - Michaelis-Menten law.
589- African American women take lisinopril and another hypertensive drug suffer from nose swelling and other symptoms what make her more suspected to this reaction Ethnicity
602-.Cimetidine is enzyme inhibitor

Elimination

485-DRUG Clearance means: The elimination of drug from the body
27-total body clearance= CLhepatic+ CLpulmonary +CLrenal
198-A fixed dose of drug that follows 1st order elimination depends on :: dose of drug
515-Definition of half-life(t1/2 Time it takes for the plasma concentration or the amount of drug in the body to be reduced by 50%
564- T 1/2 .. in frist line is. 0.693 k
573- If a drug is eliminated by first order elimination, what determines when will it reach steady state? t(1/2) half life
479- Linear pharmacokinetics = First order
----Non-linear = Zero order
670-linear pharmacokinetic parameter mean clearance don"t changed

Renal

Notes:

- ✓ **Erythropoietin should not be started until iron status has been evaluated, and iron supplements should be given first in patients with evidence of iron deficiency. An adequate response to erythropoietin requires the maintenance of sufficient iron stores.**
- ✓ **-Note Erythropoietin treat anemia induced by CRF by increasing the number of new red blood cells your body**
- ✓ **Things that may make this therapy less effective include : 1. iron deficiency.. This is the most common reason that erythropoietin may not be effective so ..**
- ✓ **1.IRON is the most important mineral during erythropiotin treatment .**
- ✓ **2. High levels of aluminum .. which may interfere with your ability to use iron**
- ✓ **3. Vitamin deficiencies such as vitamin B12 or folate**
- ✓ **-Indapamide used in hypertension or for swelling " salt and water retention due to congestive heart failure (Indepamid is thiazide diuretic) indapamide (natrilix) ---- thiazide diuretic**
- ✓ **N.b: 1- uricosuric drugs are substances that increase the excretion of uric acid in the urine, thus reducing the concentration of uric acid in blood plasma**
- ✓ **2- Allopurinol decrease uric acid synthesis (xanthine oxidase inh.)**
- ✓ **3- Probencid Increase uric acid excretion (prevent uric acid reabsorption) (probenecid is a uricosuric.)**
- ✓ **-N.B: Microalbuminuria describes a moderate increase in the level of urine albumin. It occurs when the kidney leaks small amounts of albumin into the urine**
- ✓ **N.B: aminoglycoside may exist instead of spironolactone i.e aminoglycosides and any potassium sparing diuretics(spironolactone ,triamterene and amiloride) is C.I with any kidney diseases**
- ✓ **-N.B: Thiazide control hypertension in part by inhibiting reabsorption of sodium (Na+) and chloride (Cl−) ions from the distal convoluted tubules in the kidneys**
- ✓ **Mechanism of action of ACE (Angiotensin Converting Enzyme): converts angiotensin I to potent vasoconstrictor angiotensin II ANGIOTEC is the trade name of Enalapril**
- ✓ **-Mechanism of action hydrochlorothiazide: inhibition NA reabsorption in the distal tubules causing increased.excretion of sodium and water as well as potassium and hydrogen ions.**

- ✓ **N.B: Due to presence of proteinuria we will choose ACEI drugs such as lisinopril as ACEIs reduce proteinuria**

- ✓ - Due to the drug of choice in case of **renal failure** is **loop diuretic not thiazides**
- ✓ - **Calcium** is used as prophylaxis of arrhythmia due to **hyperkalemia** "**Calcium gluconate or Calcium**

carbonate" both are right

- ✓ N.B: **Metformin is contraindicated with renal failure**
- ✓ - kidney damage=low Creatinine clearance (Crcl) = high serum creatinine

Renal failure and supplements:

37-erythropoiten (eprex) is used for anemia caused by chronic kidney disease
38- the action of epiotin enhanced with iron
99-erythropoiten(eprex) will not be useful in case of iron deficiency
525- A patient with renal faiulre on erythropoietin therapy . which of the following may decrease the effect of therapy: iron deficiency
532- Decreased efficacy of epoietin due to deficiency of: b12

672-to avoid acute renal failure maintain hydration
483- Cockcroft-Gault Equation is used for glomerular filtration and is indicted for chronic renal failure OR Bilateral renal failure & Bilateral= chronic
506- which of the following may cause acute renal failure ? IV radiological substance
398-Patient has Low creatinine clearance= high serum creatinine=kidney injury contraindicated in this case is? Spironolactone
67-A patient has **low Cr. clearance** which drug **contraindicated** in this case is? **Spironolactone**
497. Pt. with Low creatinine clearance= high serum creatinine=kidney injury contraindicated? Gentamycin
470-- Magnesium is contraindicated in renal impairment because of accumulation
593-Mg antacid for patient with renal failure the antacid will cause decrease the Elimination Of Mg
490.ACEI contraindication ? renal failure
159-sevelamer used in patients with chronic kidney disease for Hyperphosphatemia
441-sevelamer is to treat Hyperphosphatemia(Renagel)
592-A patient who is taking sevelamer drug means that he/she suffers from hyper phosphatemia
199-Kidneyfailure patient with hyperkalemia which of the following should be used calcium carbonate (may use calcium gluconate or calcium carbonate)

17-A **Kidney failure** patient with **hyperkalemia** which of the following should be used **calcium gluconate ((or CA carbonate))**

74-Analysis For man **65 year renal Failure** Result.: Sodium. 110 normal range ((135 - 145 mEq/L))
Potassium 9 normal range ((3.5 to 5.5 mEq/L))
Urea. 54 normal range ((35 - 40)) .
Serum creatinine**.** 10. Up to 3.5
---------- which of the following? **. 0.9% Nacl saline 500ml/ hour**

78-A patient takes multivitamin and his lab results show high BUN and se.cr .. What is the cause of these results?
-Renal insufficiency

81-A summary of a case that an elderly patient lab results all normal except
high K , **high serum creatinine ,** high BUN
what is the cause responsible for these results? **renal insufficient**

88-A patient's **cr clearance is 70%** what should we do with the drug dose which eliminated by kidney? **decrease the dose by 30%**
---kidney disease stage 2 alkalization of kidney by diuretic
475-Why creatinine is used as an indicator for renal function: it's bound to protein that is only excreted by kidney
517- patient take 4 drugs .. he did kidney function test and the result was high serum cr and high BUN (blood urea nitrogen)and high potassium serum level so which drug should be stopped metformin

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Diuretics:

66- loop diuretics (furosemide) cause ototoxicity (deafness)
88-diuretic of choice in renal failure: -loop diuretic
298- Captopril and Enalapril do all the following except: Competively blocks Angiotensin II at it's receptors
489-MOA of. spironolactone (Adverse effect of Spironolactone (hyperkalemia
392-Drug prevent Microalbuminuria ACEI
538-Class of drugs can transform macroalbuminurea to microalbuminurea : ACEI

10- A **hypertensive** and **diabetic** woman , after continuing medication of **pioglitazone** , it's blood glucose level return to normal and in lab reading, the **protein** appears ,, she will take which drug to treat hypertension : **lisinopril**

86-65 years old man **BMI (28.1)** type 1 DM on treatment of Glyburide, metformin, aspirin and hydrochlorothiazide come to hospital for routine check

BP: 117/110 , HR: normal, HbA1c: 7 ,
and urine analysis for protein: +ve **proteinuria** (normal negative) for medical intervention in this case: **add lisinopril**

488- Drugs induced cough Except .Losartan (angiotensin II receptor antagonists)

54-Losartan is better than captopril because… **more effect on angiotensin 2 receptors**
-------NB less side effects ((don't cause dry cough as captopril)) ... is better answer if found

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695-ACEi is contraindicated in --bilateral renal artery stenosis
626-which of the following true? ACEi cause dry cough
659- A Drug decrease Na&k and increases uric acid reabsorption: hydrochlorothiazide
691-drug increase excretion of na,k&increase reabsorption of uric acid hydrochlorothiazide
677-antihypertensive drug act by increase of urination hydrochlorothiazide
683-Side effect of thiazide diuretic: Hypokalemia
424-long long term treatment with thiazide requires – K(potassium)
401-Indapamide used in Essential hypertenstion
316-indapemide used in Pulmonary eodema ----- Essential hypertension
----if we have choice both of them this choice is correct or if not have both we must choice essential hypertension

	A	B	C	D
Renin conc	↓	↑	↑	↑
Angiotensin 1 conc	↓	↑	↑	↑
Angiotensin 2 conc	↓	↓	↑	↑
Angiotensin Receptor	—	—	↓	—

The answer of table : **Drug A is anti renin (rennin blocker) **Drug B is ace inhibitor
Drug C is ARB(angiotensin receptor blocker) **Drug D is diuretic

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359- Allopurinol Anti-inflammatory
447-Probencid alters which of the following to prevent penicillin excretion? renal tubular secretion

Toxicology

Introduction

- ✓ **Note:**
- ✓ **dependence : increasing the dose of drug associated with withdrawal symptoms if sudden decrease**
- ✓ **tolerance : increasing dose of drug to obtain the same effect**

175-toxidrome is symptoms and signs due to toxicity
561-.toxiderm meaning: the syndromes caused by toxin
629- Toxidrome meaning: physical signs and symptoms due to specific toxicity syndrome
221-drug dependence means: addiction
222-The following is related to dependence : increasing the dose of drug associated with withdrawal symptoms if sudden decrease
223-The following is related to tolerance : increasing dose of drug to obtain the same effect
287- in tolerence patient need more dose to obtain the same effect
235- Antidote : antagonism of the toxicity of over dose of a drug
321-which of the foll. drugs show most multidrug resistance a)antibiotics b)anticancer c)a&b
449-Antidote to reduce…toxicity effect

Antidots

	antidote
1-warfarin	I.V vitamin K (phytonadion
2-Heparin	Protamine sulfate
3-urokinase Streptokinase ,alteplase Reteplase, Tenecteplase	aminocaproic acid tranexamic acid
4-paracetamol	N- Acetyl cysteine
5-morphine	Naloxone
6-Iron	Deferoxamine

Notes:

- ✓ **Deferoxamine acts by binding free iron in the bloodstream and enhancing its elimination in the urine**
  - o **Digitalis arrhythmia treatment drugs RESPECTIVILY:**
- ✓ **1.lidocaine2.phenytoin3. procainamide4. Propranolol**
- ✓ **N.B: Aspirin replace heparin in plasma protein bind Increase the effects of heparin. And risk of bleeding**

- o Activated charcoal can be used within 4 hours of ingestion

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83-reflex tachycardia of hydralazine treated with propranalol
271- the action of digoxin can reduced with a- antacid - e-hyperthyrodism a & e both are right
273- digitalis arrhythmia can be treated with lidocaine
549- teatment of digitalis induced arrthymea phenytoin or lidocain
437- Antidote of DIGITALIS ? Fab fragment
52-antidote of iron toxicity: desferroxamine
413-Drugs act on non-receptor mechanism? Deferoxamine
79-A woman found her child drinking iron syrup bottle...she took him to the hospital and did some rays…His body temperature was normal…What should he take? **Desferroxamin**
174-Antidote for warfarin: vit k or the other name of it phytomenadion Alternative names of Vit. K(Phylloquinone; K1;) (Menaquinone; K2;) (Menadione; K3)
456-Vitamin k is antidote of warfarin
397-drug decreases warfarin action Multivitamins (multivitamins contain Vit K vit k in warafarin antidote
486- Antidote of warfarin ,,,What other names is Vitamin K known by?
4-Amino-2-Methyl-1-Naphthol, Fat-Soluble Vitamin, Menadiol Acetate, Menadiol Sodium Phosphate, Menadione vit k: naphthol , menadione
457-Antidote of heparin is Protamine sulfate
15-what is the antidote for methotrexate toxicity: Leucovorin
131-Which of the following used to counteract toxicity of a drug after 1 hour of ingesion activated charcoal
60-antidote for patient with drowsiness , drymouth ,and pupil constriction naloxone

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64-theSummary of a case that patient has taken unknown amount of **paracetamol** (acetaminophen) since 8 hours ago… and you have shown some lab results of his tests. what is the suitable choice for this case? **- N-Acetyl cysteine**

Adverse effects

Notes

- ✓ **Gray baby syndrome ----> Chloramphenicol induced Gray man syndrome ----> Amiodarone induced ,Red man syndrome ----> Vancomycin induced ,Lupus like syndrome----> Hydralazine & Procainamide induced**
- ✓ **N.B: 1-The most common medicines known to cause drug-induced lupus are: Isoniazid , Hydralazine• Procainamide.**
- ✓ **2- lupus is any of various diseases or conditions marked by inflammation of the skin, especially lupus vulgaris or lupus erythematosus**
- ✓ **Mtformin & metronidazole .. metallic taste Captopril .. loss of taste**
- ✓ **251-drug that makes urine red Rifampicin ,phenazopyridine, senna laxative,Doxorubicin**
- ✓ **Brown: metronidazole dark urine,,, nitrofuration brown colour**
- ✓ **Examples of drug inducing hepatotoxicity a- Paracetamol b- Ketoconazole. c- Rifampicin. d- Quinolones.**

7-which of the following drug increase the incidince of BPH chlorpheniramine
24- Drug induces lupus like syndrome: Hydralazine & Procainamide

647-anti arrhythmic cause lupus : procainamide
207-which ofthe following conditions have non preventable adverse effect ? tachy cardia with some forgot his dose of anti hypertensive drug and took 3pills
231-Drug exaggrated insulin metoprolol(masking hypoglycemic symptoms)
550- cyanide toxicity cardiac toxicity
230-Drug exaggrated blood glucose hydrochlorothiazide (cause hyper glycemia)
251-drug that makes urine red Rifampicin ,phenazopyridine, senna laxative,Doxorubicin
267- drug make urine red other than rifampicin? phenazopyridine (Pyridium), and laxatives containing senna
103- metformin and metronidazol cause : metallic taste
239- which of the following cause metallic taste metoformin
119-propylthiouracil cause agranulocytosis
408-A drug for hyperthyroidism associated with a agranulocytosis is propyl thiouracil
136- Early symptoms of aspirin poisoning are : ringing in the ears & blurred vision
193- which of the following is indicator for a toxicity of a drug) necrosis of liver by acetaminophen
358-Example of pathological toxicity: -Hepatic necrosis from acetaminophine
596-which of this groups indicate pharmacological toxicity liver cirrhosis and paracetamol
452- A Drug causes sodium and water retention indomethacin (Indomethacin if there is no Minoxidil in choices
574-A drug induces Water retention indomethacin
453-Which of the following induce diarrhea Indomethacin
181- Thimerosal (mercury)containing vaccine may cause: autism

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84-A summary of a case that a patient suffers from headache, nausea, vomiting and blurred vision… He went to a hospital with **alcohol toxicity** ((methanol toxicity)) and did kidney and liver analysis… His results and the normal.range of the tests have shown to you… All results about to be **normal**
the question is … What is your recommendation for methanol toxicity? **lab results**
----- if the ques. asks for what you **observe** on this patient the answer is … **Blurred vision**

Drug interactions

- ✓ **concomitant administration of H2 blockers may increase the dissolution rate of enteric-coated naproxen, causing the drug to be released in the stomach instead of the small intestine.**
- ✓ **i.e Interactions between omeprazole ↔ clopidogrel GENERALLY AVOID**
- ✓ **Food may decrease the rate but not the extent of oral absorption of aspirin.**
- ✓ **N.B: Aluminum, magnesium in anti-acid s and calcium in dairy products, all of these cations make a complex with fluoroquinolone and tetracycline antibiotics**
- ✓ **Furosemide is loop duiretic cause hypocalcemia and induce osteoporosis NOT osteoarthritis****
- ✓

9-which drug will be more absorped in prescence of rantidine naproxen.
391-which drug will be more absorbed in presence of ranitidine naproxen
415- The concomitant administration of H2 blockers may increase the dissolution rate of enteric-coated naproxen

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70-A 14 years-obese girl comes to the clinic with severe rash. She was initiated on oxcarbazepine about 3 weeks ago for management of partial seizures. Her medical history is significant only for seizures. She has recently become
sexually active and admits to inconsistent contraceptive use.
Which one of the following interventions is best for her? Change to Levetiracetam

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624-A patient takes clopidogrel and omeprazole so should shift to? Pantoprazole
125-what is cytochrome subtype responsible for drug interaction between omeprazol.and.clopidegrolCYP2C19
548- drug-drug interaction with plavex.. omperazol.

26- The summary of a long case that there is a patient on clopidogrel (Plavix) treatment who make an accident. He is admitted to ICU and has a **catheter**. He was taking omeprazole, what is the best intervention for him to reduce gastric secretion: **Move to Pantoprazole IV**

68-drug need serum level monitoring with quinidine :digoxin
465- Verapamil inhibit metabolism of Digoxin
244- Phenytoin decreases the effect of digoxin because: liver microsomal enzyme inducer
438-Drug interaction of heparin: Aspirin
92-if aspirin taken with warfarin or heparin lead to bleeding
520-which drug increase the action of warfarin :A/ carbimazole B/ oral contractive C/phenobaritone D/ none of

the above
429-drug make complex with dairy product Ciprofloxacin
430- Drugs that make complex with antacids? (tetracyclines and fluoroquinolones)
431-Drug makes complex with antacid Doxycycline
224--drug interaction between furosemide and osteoporosis (cause hypocalcemia)
640-.drug interact with statin: Ketoconazole
386- Drug that increases paracetamol toxicity Alcohol (ethanol)
188- when taking oral contraceptive with erythromycin : the erythromycin decrease contraceptive effect
366- Food increase effect of Propranolol

Pregnancy categories

- ✓ **Notes: Paracetamol (oral & rectal form) is category B and for (IV formulation) is category C in pregnancy**
  - **Nitrofurantoin is pregnancy category B. It is one of the few drugs commonly used in pregnancy to treat UTI & contraindicated only at term (during labor & delivery). • vancomycin is the last choice**
  - **Sulphamethoxazole & tetracycline cannot be used in pregnancy**
- ✓ **Acetaminophen is the drug of choice, Ergotamine is contraindicated in pregnancy category X**
- ✓ **Used with caution = generally safe in short term use with least possible effective dose**
- ✓ **-Ciprofloxacin and rituximab is category C**
- ✓ **-levothyroxine is class A**

- ✓ **- Levothyroxine is considered the treatment of choice for the control of hypothyroidism during pregnancy.**
- ✓ **- Due to alterations of endogenous maternal thyroid hormones, the levothyroxine dose may need to be increased during pregnancy and the dose usually needs to be decreased after delivery.**

N.B: antibiotics which are allowed during pregnancy: 1-pencillins family2-Macrolides3- Cephalosporin

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11- **A pregnant** woman in her third week she takes **levothyroxine 100 mcg**, you advise her **Increase the dose of levothyroxine**
87-paracetamol is category B for pregnancy
406-A pregnant women in her 35 week has a headache she should take acetaminophen(= Paracetamol)
68- A **pregnant** woman in **35** weeks and before 7 days from her labor she suffers from severe headache... What is the **DOC** for her? **Acetaminophen**
80-**A pregnant** women with **pyelonephritis** went to hospital given **ceftriaxone** IV what is antibiotic to go with - **amoxicillin with clavulanic acid**
407- Paracetamol category b in pregnancy means Used with caution
249-Pregnant woman has UTI (Urinary Tract Infection) which is the drug of choice to treat her UTInitrofurantoin(• If there is no cefuroxime as an option …choose nitrofurantoin in this case
100- A **pregnant** woman has **sulfa allergy**, she suffers from **vaginal itching**... her analysis shows positive **E.coli** what is the antibiotic of choice for her infection? **Nitrofurantoin**
692-Erythromycin is macrolide class act mainly gm +ve and is safe in pregnancy
82-hydralazine is category C pregnancy
463- Category X Studies in animals or humans have demonstrated fetal abnormalities and/or there is positive evidence of human fetal risk based on adverse reaction data from investigational or marketing experience, and the risks involved in use of the drug in pregnant women clearly outweigh potential benefits. Example drugs: atorvastatin, simvastatin, warfarin, methotrexate, finasteride
543-misoprostol is category X
705. Which is category X ? leflunomide

196-Captopril is contraindicated with :: Pregnancy
674-vitamine is contraindicated in pregnancy in highly doses vit. A

Vitamins

Doses

Vitamin D	Calcium	Folic acid
Geriatrics <70years....600Iu > 70years...800iu Pregnant....600iu Adult...600iu	Adult.....1000mg Pregnant ....1200mg Geriatric 1200mg	Male.....400mcg Female....400-800mcg Pregnant.....600mcg

-dose of folic acid in non pregnant woman is400 mcg/day, pregnant600 mcg/day, Lactating500 mcg/day

8-· The dose of folic acid in non pregnant woman is400 mcg/day
509- Dose of calcium for woman 65year 1200mg
552- daily dose of iron in iron defficency anemia is100 mg 3 times/day
115-daily dose in case of iron deficiency anemia325mg tid (or 1200)
Dose in iron defecieny anaemia is:- 325 mg bid
If in the question elemental iron: the recommended oral daily dose for the treatment of iron deficiency in adults is in the range of 150 to 200mg/day of elemental iron"50-65 mg 3 times per day".
If in the question (ferrous sulfate): it is in the range of (1000 -1200mg/day) of ferrous sulfate in 3 or 4 divided doses, 1000mg divided in 3 doses and 1200mg divided in 4 doses
17-recommended vit d3 dose for geriatric 600 iu
146- Daily recommended dose for vit. C in male :-: 90mg/day(female the answer is 75mg \ day)
192- vit c for female: 75mg
341-DAILY intake of vitamin A for adult female is : 700 mcg
---Male 1000, Adult female 800, pregnant 900, breastfeed 1200-1300

Uses and others

Note : ferrous gluconate taken orally, iron sucrose .. injection

Iron deficiency anemia … lack of iron
Megaloblastic anemia … lack of vit b12 &folic acid Pernicious anemia … lack of vit b12
Anemia due to **CRF** … lack of RBCs and treated by **Epoetin**
Aplastic anemia .. the body's bone marrow doesn't make enough new blood cells Haemolitic anemia … red blood cells are destroyed and removed from the
bloodstream before their normal lifespan is up

477-vitamin d for patients with renal failure: 1,25-dihydroxycholecalciferol(Calcitriol)
527- What is the vitamine needed with treatment by corticosteroids for 2 years for chronic disease?? Vitamin d with ca.
71- ascorbic acid is : vitamin c
72- B-carotene is precursor of vitamin A(retinol)
484- MOA of beta-carotene Precursor for vit A (retinol) Antioxidant
384-Anemic patient refuses to take injection so DOC: Ferrous gluconate
585- A patient with iron deficiency anemia refused to take any parenteral drugs ferrous gluconate
503-Iron deficiency anemia treated with..... 》iron
---Pernicous anemiea treated with vit b12
304-Which of the following is found in vitamin b12? Cobalt
400- Megaloplastic anemia folic acid /cyanocoblamin……..i.e (vitb9+vitb12) N.B: Pernicious anemia. Deficiency of vit b12 ..Only
Megaloblastic anemia treated with》folic acid and vit b12
462-which of the following prevents Neural tube defects (birth defects) Folic acid (vit. B9)
641-. vitamins prevent fetus abnormalities .vit b9 N.B. vitb9 (folic acid)

----Anemia of chronic renal failure treated with epoetin ..but if there is iron deficiency it will be treated with derbepoetin

622- A patient has megaloblastic anemia should receive? B12 cobalt and b9 folic acid