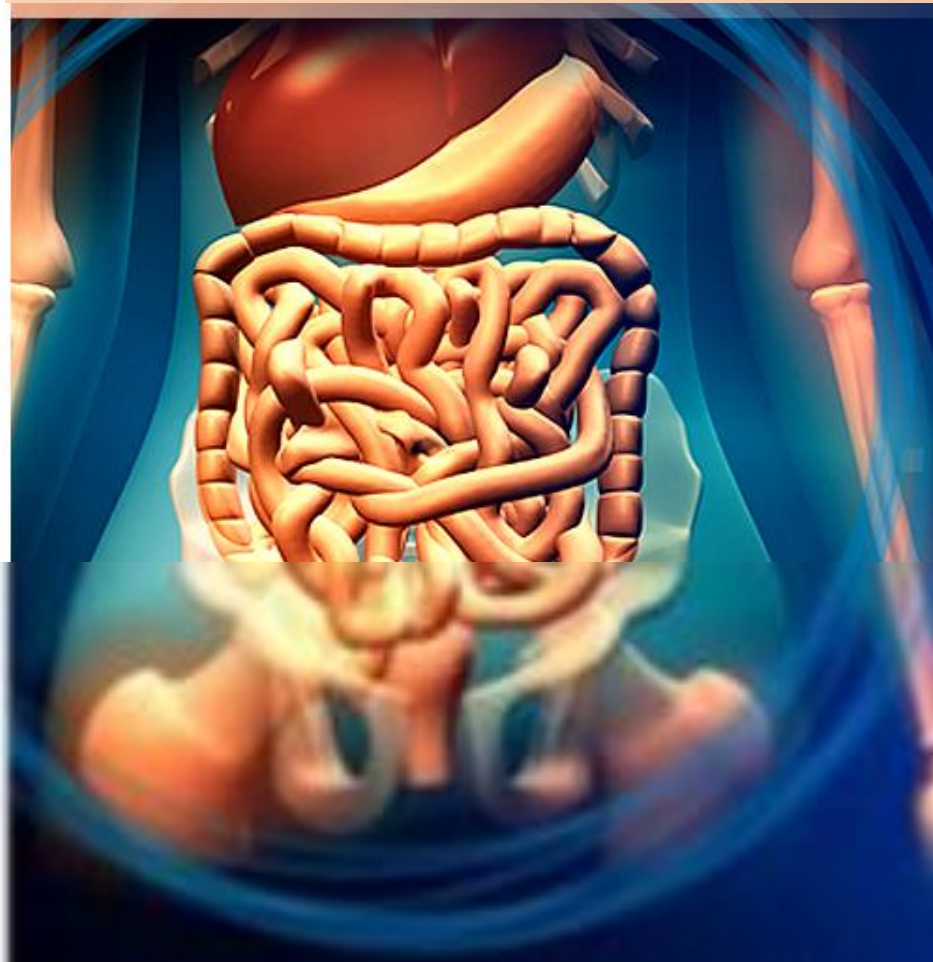
King Saud University
College of Medicine
2nd Year, 2nd Block

GIT BLOCK

PHARMACOLOGY 433

MED 433 Teams



Revision

This work includes lectures from 3 to 10 and it is a summery of the important notes on each lecture + the uses and side effect for each drug +MCQs

L3:ANTIAMEBIC DRUGS

Notes

1-if the Pateint came with symptoms we use tissue amebicides while if he came with asymptoms we use luminal amebicides

2-if we have to start the treatment with tissue amebicides we have to follow with luminal amebicides to get rid of the cycts

3-metronidazole is the drug of choice in all tissue Amebiasis And it is similar to tinidazole but tinidazole is better

4-Emetine &Dehydroemetine both are toxic and have been replaced by metronidazole + they never given I.V

5- luminal amebicides drugs should be poorly absorbed to do the action which is eradicate cysts

6-Ciprofloxacin is the drug of choice in bacillary dysentery.

7-In children and pregnancy, ceftriaxone or cefixime is the choice

Drugs	Clinical Uses	Adverse Effects
Metronidazole &tinidazole	-Giardiasis -Trichomoniasis -Broad spectrum of anaerobic bacterial infections	-Neurotoxicological effect= Peripheral neuropathy& Encephalopathy -Disulfiram-like effect -Dysuria. -Neutropenia.
Emetine &Dehydroemetine	-Amoebic liver abscess. -Severe forms of amebiasis acute amoebic dysentery	Serious toxicities: cardiotoxicity, Hypotension, cardiac arrhythmias, heart failure.
Chloroquine	In combination for amebic liver diseases.	-pruritus -Hemolysis in G6PD deficient patients.
Diloxanide furoate	-Drug of choice for asymptomatic intestinal infection	GIT disorder
Iodoquinol	asymptomatic amebiasis	-Peripheral neuropathy including optic neuritis. -Enlargement of the thyroid gland. -Iodine sensitivity. -interference with thyroid function tests
Paromomycin	chronic amebiasis to eliminate cysts	-Gastrointestinal distress
Ciprofloxacin	Bacterial diarrhea (caused by shigella, salmonella and E coli).	-Arthropathy -Phototoxicity. -Liver toxicity GIT -CNS -CVS disorder

L3:ANTIAMEBIC DRUGS

Q1: Old age patient who is live lonely come to you with extra luminal amoebiasis, he has lots of drugs to use for different diseases, which one of the following drugs is the best drug of choice in this case ?

A) Metronidazole
B) Tinidazole
C) Diloxanide furoate

*Ans: B (Because it has better toxicity profile and potency than metronidazole, so he will take small dose and may be once daily rather than high dose and frequent time daily)

Q2: Alcoholic patient come to you with abdominal distress, nausea, vomiting, flushing, headache, tachycardia, hyperventilation ,after he take metronidazole for liver abscess . How you explain his symptom ?

A) Disulfiram-like effect
B) Effects of high dose metronidazole
C) alcohol dehydrogenase deficiency

Q3: Which drug we should be avoid in case of patient with thyroid enlargement:

A) Iodoquinol
B) Diloxanide
C) Chloroquine

Q4: Child present with bacillary dysentery which of the following should be given to treat him ?

A) Metronidazole
B) Ciprofloxacin
C) Cefixime

Q5: which of the following has direct and indirect pathways to kill luminal forms of ameba ?

A) Paromomycin Sulphate
B) Metronidazole
C) Cefixime

1-B* 2-A 3-A 4-C 5-A

L4:DRUGS USED IN TREATING CONSTIPATION AND IBS

Notes

1- Osmotic Laxatives include **lactulose, Saline laxatives , Polyethylene glycol (PEG)**

2-**Saline laxatives include**(Magnesium sulphate or hydroxide Sodium or potassium phosphate) has a rapid effect and many adverese effects so it modified to **Polyethylene glycol (PEG)**

3-Stimulant Laxatives is the most powerful group and it is not used in chronic constipation because the patient won't be able to pass stool without it

4-**Castor Oil degraded into** ricinoleic acid and it is very irritating to mucosa

5-**senna also degraded into** emodin which has direct stimulant action

6- **Senna is contraindicated in lactation & Castor oil in pregnancy**

7-for IBS we give Alosetron&Tegaserod both of them derivative from serotonin one is agonist and the other is antagonist

Drugs	Clinical Uses	Adverse Effects
1-Dietary fibers: Indigestible parts of vegetables & fruits,Bran powder. 2-Hydrophilic colloids: Psyllium seed, Methyl cellulose, Carboxymethyl cellulose (CMC)	Acute & chronic constipation	1. Delayed onset of action (1-3 days). 2. Intestinal obstruction (should be taken with enough water). 3. Bloating, flatulence, distension. 4. Interfere with other drug absorption e.g. iron, cardiac glycosides
3-Fecal Softeners (Docusate, Glycerin, Paraffin oil)	Treat constipation in patients with hard stool or specific conditions and for people who should avoid straining (as in after surgery or acute perianal disease)	Paraffin oil: impairs absorption of fat soluble vitamins. -not palatable
4-Stimulant Laxatives (Bisacodyl, Castor oil, senna, cascara, aloes)	act via direct stimulation of enteric nervous system →increased peristalsis & purgation	1. Abdominal cramps may occur. 2. Prolonged use → dependence & destruction of myenteric plexus leading to atonic colon.
5-Osmotic Laxatives (Lactulose)	1.Prevention of chronic constipation. 2.Hepatic encephalopathy (Hyperammonemia) as in liver cirhhosis. 3. Hemorrhoids . 4. opioid constipation	1. Delayed onset of action (2-3 days) 2. Abdominal cramps and flatulence. 3. Electrolyte disturbances.
6-Osmotic Laxatives (Saline laxatives)	Treatment of acute constipation .	1. Disturbance of fluid and electrolyte balance 2. May have systemic effects.

L4:DRUGS USED IN TREATING CONSTIPATION AND IBS

Drugs	Clinical Uses	Adverse Effects
7-Osmotic Laxatives (Polyethylene glycol (PEG))	**Used for whole bowel irrigation prior to colonoscopy or surgery**	**No Adverse Effects = advantage** **1. Limited fluid or electrolyte imbalance** **2. less flatulence and cramps**
8-Alosetron **(**$5HT_3$ antagonist)	**Used in severe IBS- D in women who have not had success with any other treatment.**	**Constipation and ischemic colitis**
9-Tegaserod ($5HT_4$ agonist)	**Short term treatment of IBS-C in women <55 years old with no history of heart problems**	**CVS side effects**

Q1: Patient suffering from constipation for 3 month then he develops Hemorrhoids after taking the history you found that he has liver cirrhosis, congestive heart failure and CNS depression . what is the drug of choice for constipation in this case ?
A) lactulose
B) Magnesium sulphate
C) Sodium phosphate

Q2: Patient are going to do colonoscopy, which one of these drug should we give him for bowel irrigation ?
A) Magnesium sulphate
B) lactulose
C) Balanced Polyethylene Glycol

Q3: Patient suffering from constipation and he decide to use senna to relieve it, he use it for long time until he become dependent . What do you expect to see as a complication of prolong use of senna ?
A) atonic colon
B) intestinal obstruction
C) ischemic colitis

Q4: patient come to you suffering from constipation and she is breastfeeding which drug should we avoid ?
A) castor oil
B) senna
C) Bisacodyl

L4:DRUGS USED IN TREATING CONSTIPATION AND IBS

Q5: Pregnant women come to you suffering from constipation which drug may cause abortio so we should avoid it ?
A) castor oil
B) senna
C) Bisacodyl

Q6: patient with IBS was treated by a drug and after a while he developedischemic colitis . What was the drug he took ?
A) Tegaserod
B) Anthraquinone glycosides
C) Alosetron

Q7: Patient suffering from abdominal discomfort associated with constipation , he diagnosed that he have Irritable Bowel Syndrome with constipation . What is the drug of choice?
A) Tegaserod
B) Anthraquinone glycosides
C) Alosetron

Q8: Patient undergo surgery, after that the doctor prescript one of the drugs that use for constipation becouse the patient should avoid straining to prevent any effort during defecation . Which of drug from the following do you think the doctor prescript ?
A) luminal amebicides
B) polyethylene glycol
C) lubricants

1-A 2-C 3-A 4-B 5-A 6-C 7-A 8-C

L5:DRUGS USED IN INFLAMMATORY BOWEL DISEASE (IBD)

Notes

1-All aminosalicylates are used for induction (acute) and maintenance (prophylaxis) of remission

2-there are different formulation because we want to delay the absorption of aminosalicylates from the small intestine to act on the site of inflammation .

3-**Glucocorticoids** As enema or suppository have Less absorption rate than oral that means they have Minimal side effects & maximum tissue effects.

4-**Budesonide** treat active mild to moderate Crohn's disease involving ileum and proximal colon while,**Hydrocortisone** give to treat Crohn's disease involving rectum or sigmoid colon

5- **Immunomodulators**
Are used to induce remission in IBD in active or severe conditions or steroid dependent or steroid resistant patients= if pt. not respond to Glucocorticoids

Drugs	Clinical Uses	Adverse Effects
1-Sulfasalazine (Azulfidine)	-Rheumatoid arthritis -in ulcerative proctitis and proctosigmoiditis	-Side effects of sulfasalazine: (Crystalluria, Bone marrow depression, Megaloblastic anemia, Folic acid deficiency (should be provided), Impairment of male fertility (Oligospermia)). Side effect of 5-ASA: Interstitial nephritis.
2-Asacol ,Pentasa (oral) **Canasa**(suppositories) **Rowasa**(enema)		-well tolerated = have less side effects compared to sulfasalazine -we can give it to sulaf allergic patients
3-prednisone(oral) **-prednisolone**(oral) **-Budesonide**(oral)	-acute flares of disease (moderate & severe active IBD) -Asthma. -Rheumatoid arthritis. -immunosuppressive drug for organ transplants. -Antiemetic during cancer -chemotherapy.	
4-hydrocortisone(IV or IM) **-methyl prednisolone**(IV or IM) **-Hydrocortisone**(Rectal)		
5-azathioprine & 6-mercaptopurine	Induction and maintenance remission in IBD	-leucopenia+thrombocytopenia -Hepatic dysfunction*Routine ,Complete blood count & liver function tests are required in all patients*
6-Methotrexate	IBD+Rheumatoid arthritis+Cancer.	-Megaloblastic anemia because it is a folic acid antagonist - Bone marrow depression

L5:DRUGS USED IN INFLAMMATORY BOWEL DISEASE (IBD)

Drugs	Clinical Uses	Adverse Effects
7-Infliximab (IV as infusion)	-rheumatoid arthritis -Psoriasis -In moderate to severe active Crohn's disease and ulcerative colitis.	-Severe hepatic failure. -Rare risk of lymphoma =Infection complication -Allergic reactions or anaphylaxis
8-Adalimumab (HUMIRA)	-rheumatoid arthritis -Psoriasis -In moderate to severe active Crohn's disease and ulcerative colitis.	-well tolerated = have less side effects compared to sulfasalazine -we can give it to sulaf allergic patients
9-Certolizumab pegol (Cimzia)	-Given subcutaneously for the treatment of Crohn's disease - rheumatoid arthritis	

Q1: which one of the following used for induction and maintenance of remission in IBD?

A) Budesonide
B) Olsalazine
C) Alosetron

Q2: Which one of the following Aminosalicylates is compose of 5-ASA+inert carrier?

A) Balsalazide
B) sulfasalazine
C) olsalazine

Q3: Patient diagnosed that he has ulcerative proctitis and proctosigmoiditis and history of recent moderate IBD what is the first line of treatment :

A) Rowasa
B) sulfasalazine
C) Budesonide
C) Budesonide

L5:DRUGS USED IN INFLAMMATORY BOWEL DISEASE (IBD)

Q4: Asthmatic patient come to you with active mild to moderate crohn's disease involving ileum and proximal colon, what is the best drug in this case?
A) hydrocortisone
B) canasa
C) Budesonide

Q5: which one of the following drug can cause oligospermia as side effect ?
A) sulfasalazine
B) canasa

Q6: Which drug of the following use subcutaneously for the treatment of Crohn's disease?
A) 6-mercaptopurine
B)Certolizumab pegol
C)Rowasa

Q7: patient suffering from prostate cancer and he is also having IBD which one of the following is drug of choice ?
A)Methotrexate
B)Infliximab
C) azathioprine

1-B 2-A 3-A 4-C 5-A 6-B 7-A

L6:CYTOCHROME SYSTEM AND DRUG METABOLISM

Notes

1-CYT P450 **"3A4"** IS the most common ONE That related to drug metabolism

2-CYT P450 **"3A4"** can be induced or inhibited in presence drug that acts on substrate "drugs" also

3-there is **Genetic Variation** in some CYT P450 like(CYP2D6+CYP2C19+CYP2C9)

4-CYP2D6 when acts on drug or pro-drug it becomes poor metabolized so **toxicity will develop if it was a drug** !! Or it **not transformed into active forms if it was a pro-drug = no effect**

5- CYP2C19 it increases & prolonge action of its substrates as **omeprazole** = increased cure rates = good effect

6-CYP2C9 there is some drug metabolite with this enzyme and the drug it self has a **narrow therapeutic index like** (Warfarin phenytoin, & tolbutamide) **and Warfarin which will cause bleeding**

CYT P450 "3A4"

Sorry but u have to memorize all of them

Substrates	Inhibitors	Inducers
Immunosuppressants: Cyclosporine		
Azole Antifungals: Fluconazole		
Antibiotics: Erythromycin, Clarithromycin		
Ca channel blockers: Amlodepine, Verapamil	• Protease Inhibitors: Ritonavir • Cimetidine • Chloramphenicol • Nefazadone • Grape Fruits	• Rifampicin • Phenytoin • Carbamazepine • Barbiturates • Dexamethazone • Progestins
Statins: Atorvastatin		
Antiarrhythmic: Amidarone		
Cancer Chemotherapy: Cyclophosphamide, Tamoxifen		
Non-Sedating Antihistaminics: Astamizole		
Benzodiazipines: Midazolam, Clonazepam		

CYP2D6

Drug=toxicity will develop	pro-drug = no effect
neuroleptics, tricyclic antidepressants, antianginals agent (perihexiline), antiarrhythmics (propafenone & metoprolol)	codeine
	tramadole

L6:CYTOCHROME SYSTEM AND DRUG METABOLISM

Q1: genetic polymorphism in CYTP2C19 gene will show what of the following ?
A) increased & prolonged action of omeprazole
B) increased & prolonged action of tolbutamide
C) Metabolism of some drugs

Q2: Polymorphism in which of the following increase the rate of cure in H.Pylorus peptic ulcer?
A) CYP2D6
B) CYP2C19
C) CYP2C9

Q3: Patient has heart problem his doctor prescript Amidarone to him then he develop T.B and take Rifampicin . Which one of the following is true
A) decrease in efficacy of Rifampicin , inducing CYT 3A4 ‘s activity by Amidarone
B) increase in efficacy of Amidarone , inhibiting CYT 3A4 ‘s activity by Rifampicin
C) decrease in efficacy of Amidarone , inducing CYT 3A4 ‘s activity by Rifampicin

Q4: Which of the following drugs is metabolized by CYP2C9?
A) Penicillin
B) Vancomycin
C) Phenytoin

Q5: Which one of the following is the transcription factor for the expression of the CYP P450 genes ?
A) PXP
B) PXR
C) RXR

1-A 2-B 3-C 4-C 5-B

L7: HEPATOTOXIC DRUGS

Notes

1-drug-induced hepatotoxic could be intrinsic hepatotoxin or idiosyncratic hepatotoxin

2- intrinsic hepatotoxin could be in Supertherapeutic dose like **Acetaminophen& Statins**

3- intrinsic hepatotoxin could be in Cumulative Dose like **Oral contraceptives & Amiodarone**

4-idiosyncratic Hepatotoxin in normal dose can cause toxic by **immunoallergic reactions** like **Isoniazid+Phenytoin+Methyldopa cause Viral hepatitis-like Pattern** or drugs like **Chlorpromazine+Chlorpropamide+Erythromycin which cause cholestasis**

5- idiosyncratic Hepatotoxin in normal dose can cause toxic by **Metabolic reactions** like **Erythromycin & Rifampicin which interfere with bilirubin metabolism or drugs like Corticosteroids & tetracycline which interfere with protein metabolism**

DRUG INDUCED LIVER INJURY

SYMPTOMATIC		ASYMPTOMATIC ⇧ In aminotransferases
DRUGS LIKE	HEPATIC INJURY	
Acetaminophen +NSAIDs +Isoniazid +Amiodarone	Hepatitis*	Phenytoin Statins Sulfonamides Sulfonylureas
Chlorpropamide +Erythromycin +Rifamycin +Oral contraceptives	Cholestitis*	
Phenytoin +Carbamazepine +Sulfonamides +ACE Inhibitors	Mixed	

***Hepatitis** Manifested by Flu-like, malaise& severe Anorexia& loss of Appetite while **Cholestitis** Manifested by pruritus&stool may be light&dark urine

L7: HEPATOTOXIC DRUGS

Case: Teenager patient come to ER with hepatotoxicity after she take Paracetamol trying to commit suicide as a result of failed love story.

Q1: which type of hepatotoxin is it considered?

A) indirect cumulative dose intrinsic hepatotoxin
B) direct super-therapeutic dose intrinsic hepatotoxin
C) direct super-therapeutic dose idiosyncratic hepatotoxin

Q2: Undergo which type of adverse effect ?

A) Type A ADRs (dose-dependent hepatotoxicity)
B) Type B ADRs (dose-independent hepatotoxicity)
C) Type C ADRs

Q3: what is the toxic form of Paracetamol ?

A) N-acetylcysteine
B) Ursodiol
C) NABQI

Q4: what is the treatment in this case?

A) N-acetylcysteine
B) Cholestyramine
C) Ursodeoxycholic acid

Q5: A patient took an cumulative dose of a drug A after tow months he developed Flu-like, malaise, m.aches weakness,loss of appetite, GIT symptoms, diarrhea,jaundice, urine discolored what is drug A ?

A) Paracetamol
B) Erythromycin
C) Amiodarone

Q6: from previous question under which type of hepatotoxin is drug A considered?

A) indirect cumulative dose intrinsic hepatotoxin
B) direct super-therapeutic dose intrinsic hepatotoxin
C) direct super-therapeutic dose idiosyncratic hepatotoxin

Q7: what is the treatment for pruritus ?

A) N-acetylcysteine
B) Cholestyramine
C) Ursodeoxycholic acid

1-B 2-A 3-C 4-A 5-C 6-A 7-B

L8: ANTI-COAGULANTS

Notes

1-heparin and LMW heparin has same indication but LMW heparin works mainly on factor 10 + has less tendency to have bleeding + decrease monitoring needs + we don't need to give antidot

2-**heparin and LMW both can be given to pregnant woman while warfarin is contraindicated to her**

3- **only give heparin at hospital setting while LMW heparin can be used at home**

4- heparin and LMW heparin are **rescue therapy** and VKA give to follow the therapy

5-**rivaroxaban & dabigatran** have oral preparation so can be given at home also

6- if we developed **heparin induced thrombocytopenia** as a side effect of using heparin !! we treat this situation by giving any drug from **Direct Thrombin inhibitors group**

7-**VKA inhibit Vit K epoxide reductase enzyme** + warfarin has genetic polymorphisms so some patients can get bleeding without any increasing in dose

	Parenteral Anticoagulant (Used in acute 'emergency' Cases)				Oral Anticoagulants
	Unfractionated heparin	**LMW Heparin**	**Direct Thrombin inhibitors**	**Factor Xa Inhibitor**	**Vitamin K antagonist**
Acts on	**XIIa, XIa, IXa, Xa, IIa And thrombin (1000 more potent than Anti thrombin3) LMWH: Works more on Xa**		**Thrombin 2a**	**Factor Xa**	**Factors II, VII, IX &X**
Drugs	**Heparin**	**Enoxaparin Lovenox Dalteparin**	**-Bivaluridin -Argatroban -Dabigatran -Lepirudin**	**Indirect: Fondaparinux Direct: Rivaroxaban (Orally)**	**-Warfarin > 40 times potency than: Dicumarol**
Pharmaco kinetics	• **Rapid** • **Variable (unpredictable)**				**-Slow -Latency -Variable**
Monitor	• **aPTT (1.5 - 2.5 times normal [30sec])** • **CT (2-3 times normal [5-7 min])**				**-PT (2 times) -INR (2.5)**
Antidote	• **Protamine Sulphate IV → for heparin** • **Fresh blood**				**-Vitamin K1 infusion -Fresh blood**

L8: ANTI-COAGULANTS

Q1: which one of the following have -ve of fibrin-bound IIa ?
A) UF Heparin
B) Low molecular weight heparin
C) Direct thrombin inhibitors

Q2: Patent taking heparin as anticoagulant for 2days, after that he developed one of the side effect of heparin which one of the following do you expect ?
A) Heparin induced thrombocytopenia
B) Re-thrombosis
C) Both

Q3: Patent taking heparin as anticoagulant for 7days, after that he developed one of the side effect of heparin which one of the following do you expect ?
A) Heparin induced thrombocytopenia
B) Re-thrombosis
C) Both

Q4: what is the treatment in case of Heparin induced thrombocytopenia ?
A) Low molecular weight heparin
B)Direct thrombin inhibitors
C) Vitamin A antagonist

Q5: Which drug is contraindicated for pregnant lady with Venous thrombosis?
A) Warfarin
B) Heparin
C) LMWH

Q6: one of the advantages in Low molecular weight heparin that it has much better tolerability and can given subcutaneous .
A)True
B)Fouls

Q7: Carbamazepine is giving to a patient who is taking VKI, what is the predictable result of this combination ?
A) Toxicity that leads to bleeding
B) Decrease the efficacy leading to thrombosis
C) Increase the INR

1-C 2-B 3-A 4-B 5-A 6-A 7-B

L9:ANTI-MALARIA

Notes

1-we use **artemisinin & chloroquine&quinine to treat attack** and primaquine to prevent relapse + it is not use alone

2-we give Artesunate IV or IM in **severe complicated cases as cerebral malaria** (24h) followed by complete course of Artemisin-based combination therapies (ACTs)

3-Chloroquine and Amodiaquine **very effective on vivax + can be given to pregnant lady**

4-**QUININE can raise plasma levels of warfarin and digoxin**+ it is contraindicated to pt. has Prolonged QT Interval
orGlucose-6-Phosphate Dehydrogenase Deficiency
orMyasthenia Gravis
Or Optic Neuritis, auditory problems

5- we prefer to give **QUININE rather than Chloroquine**

Drugs	Clinical Uses	Adverse Effects
1-Artemisinin *4hrs* **artenusate *45 minns*** **Artemether*4-11hrs***	-blood Schizontocide=Affect all forms including multi-drug resistant P. falciparum	-Transient heart block -Decrease neutrophil count -Brief episodes of fever -Neuro, hepato and bone marrow toxicity nephritis.
2-Chloroquine and Amodiaquine	-Eradicate blood schizonts of Plasmodium vivax -used also in rheumatoid artheritis, SLE	-Retinopathy -Lichenoid skin eruption, bleaching of hair -hypotension - dysrrhythmias
3-QUININE	-Potent blood Schizontocide & weak Gametoside.	-Cinchonism - Blood dyscarasis IV = neurotoxicity -Blackwater fever -Mild oxytoxic -Slight neuromuscular blocking action
4-PRIMAQUINE	-Radical cure of P. ovale & P. Vivax=liver hypnozoites -Prevent spread of all forms=gametocytocides	G-6-PD deficiency =hemolytic anemia. -Granulocytopenia & agranulocytosis

L9:ANTI-MALARIA

Q1: Patient suffering from Malaria come to ER with confusion and she diagnosed that she has falciparum cerebral malaria, what is the management in this case ?
A) IV Artisunate for 24 hrs followed by Artemether+Clindamycin
B) IV Chloroquine followed by primaquine for 14 days
C) Artemether+Clindamycin for 7days followed by primaquine for 14 days

Q2: Patient has history of Malaria tow month ago come to you suffering from progressive visual loss the doctor notice macular pigmentation, lichenoid skin and bleaching of hair. After investigation what do you expect to see in his blood ?
A) Falciparum
B) Chloroquine
C) Artisunate

Q3: which one of the following drug act on heme polymerase by block it to prevent heme from convert to hemozine ?
A) Chloroquine
B) Quinine
C) Both

Q4: Patient has malaria and he taking drug for it, he come to you suffering from cinchonism which is tinnitus he feel like ringing of the ear, headache, nausea and visual disturbance also he has thrombocytopenic purpura and blackwater fever . Which one of antimalaria drugs can cause such side effect?
A) Chloroquine
B) Quinine
C) Artisunate

Q5: Patients with G-6-PD deficiency develop hemolytic anemia . Which one of the following cause this side effect ?
A) Primaquine
B) Chloroquine
C) Artisunate

Q6: Pregnant women in first months of pregnancy suffering from falciparum Malaria, what is safest drug for her case ?
A) IV Artisunate for 24 hrs followed by Artemether+Clindamycin
B) Primaquine for 14 days
C) Quinine+Clindamycin for 7days

1-A 2-B 3-C 4-B 5-A 6-C

L10: ANTI-PLATELETS DRUGS

Notes

1-all antiplatelets drugs used as prophylaxis and all of them can cause bleeding as a side effects

2-**Aspirin inhibite COX-1 (cyclooxygenase enzyme)** and we give it in small dose (pediatric dose) to inhibit thromboxane not prostaglandin

3-If the patient not tolerated aspirin here we can give any drug from the other groups

4-**Clopidogrel&Ticlopidine** inhibit ADP receptor P2Y12 irreversibly both are pro drug and have slow onset

5-**Clopidogrel** has replaced ticlopidine which means clopidogrel is the best in the group

6-the new generation of ADP inhibitors including **(Prasugrel, Ticagrelor)** have rapid onset and the don't require hepatic activation

7-the glycoprotein 2B\3A receptor inhibitors is the only group that we can give them as IV infusion and can be used during PCI or even after

8-**Dipyridamole inhibit phosphodiestrase thus increase cAMP + it is not giving alone** should be combined with aspirin or warfarin for better result

Drugs	Clinical Uses	Adverse Effects
1-Aspirin (orally)	**- Prophylaxis of thromboembolism. - Prevention of ischemic events in unstable angina pectoris.**	**- Peptic Ulcer. - GIT bleeding.**
2-Ticlopidine (orally)	**Secondary prevention of ischemic complications after MI, ischemic stroke and unstable angina.**	**-Sever neutropenia (less in Clopidogrel). - Bleeding. - Allergic reactions.**
3- Clopidogrel (orally)	**- Recent MI, Recent Stroke or Established Peripheral Arterial Disease. - Acute Coronary Syndrome .**	
4-Prasugrel, Ticagrelor	**Prophylactic: reduce the rate of thrombotic cardiovascular events in patients with acute coronary syndrome who are to be managed by PCI.**	**- increase bleeding risk. - Ticagrelor causes dyspnea.**
5-Dipyridamole (orally)	**- prophylaxis of thromboembolism in cardiac valve replacement with warfarin. - Secondary prevention of stroke and transient ischemic attack with aspirin.**	**-Headache. - Postural hypotension.**
6-Abciximab I.V	**-Prevention of ischemic cardiac complications in patients undergoing PCI. -Can be used in combination with aspirin and heparin.**	----------
7-Tirofiban, Eptifibatide (I.V)	**reduction of incidence of thrombotic complications during PCI**	----------

L10: ANTI-PLATELETS DRUGS

Q1what is the mechanism of action of Aspirin as anti-platelet drug?

A) small dose, Irreversible inhibition of cyclooxygenase enzyme (COX-1)
B) small dose, irreversible inhibition of cyclooxygenase enzyme (COX-2)
C) large dose, reversible inhibition of cyclooxygenase enzyme (COX-1)

Q2: patient has peptic ulcer and history of recent myocardial infarction what is the best drug to use as secondary prevention of ischemic complication after MI ?

A) Aspirin
B) Clopidogrel
C) Ticlopidine

Q3: what the different between new ADP inhibitor pathway(Prasugrel,Ticagrelor) and clopidogrel ?

A) Both have rapid onset of action than Clopidogrel
B) Both have slow onset of action than Clopidogrel
C) Both taken by I.V while Clopidogrel taken orally

Q4: patient come to ER undergoing percutaneous coronary intervention (PCI) what is the best drug used to prevent ischemic cardiac complications in this patient?

A) Clopidogrel
B) Tirafiban
C) Abciximab

Q5: what is the mechanism of action of Tirafiban as anti-platelet drug ?

A) act as fibrinogen mimicry agents
B) Block all the receptors P2Y12
C) inhibition of cyclooxygenase enzyme (COX-1)

Q6: which one of the following using as Prophylaxis with warfarin of thromboembolism in cardiac valve replacementpatients ?

A) Dipyridamole
B) Eptifibatide
C) Ticagrelor

Q7: which one of the following given as I.V. infusion ?

A) Abciximab
B) Tirafiban & Eptifibatide
C) both A,B

1-A 2-B 3-A 4-C 5-A 6-A 7-C

To Remember

Alosetron use in case of IBS associated with diarrhea

A(lose)tron : lose > كأنها loose يعني لين و بالتالي اربطوها انه يستخدم في الحالات اللي فيها اسهال

#Tegaserod use in case of IBS associated with constipation

Te(gase)rod : gase > كأنها (قاسي) و بالتالي اربطوها انه يستخدم في الحالات اللي فيها امساك

Systemic amebiasis: **Chloroquine, Metronidazole, Emetine, Dehydroemetine**.

(Metro)nidazole: بما أنها Systemic معناها مو في مكان واحد فتحتاج ميترو علشان تتنقل بين أجهزة الجسم

E(metine), Dehydroe(metine): لما يكون الواحد متين (سمين) تصير له مشاكل في (systemic and invasive) كثير من أجهزة الجسم <

Chloro(quine) > و أي نظام system لازم يكون له ملكة و مكان ملكتنا هنا الكبد

#Balsalazide: 5-ASA + inert carrier خامل

(Bal)salazide > تذكروا بليد يعني خامل و كسول بالتالي الإضافة هنا عنصر خامل

#Olsalazine: 5-ASA + 5-ASA

(Ol)salazine >It's pronounce like "All" so, All are 5-ASA

 # Asacol: 5-ASA coated in pH-sensitive

Asa(col): تذكروه بشخص كوول و حساس

#pentasa: time-release microgranules that release 5-ASA throughout small intestine

Pen(tasa) > نطقه كأنه طازا يعني طازج و الطازج يعتمد على الوقت و ما عاد يصير طازج كمان على طاري الطازا يذكرنا بالأكل بالتالي ينأخذ عن طريق الفم

#Rectal formulations **: Canasa** (suppositories تحاميل), **Rowasa** (enema حقنة شرجية)

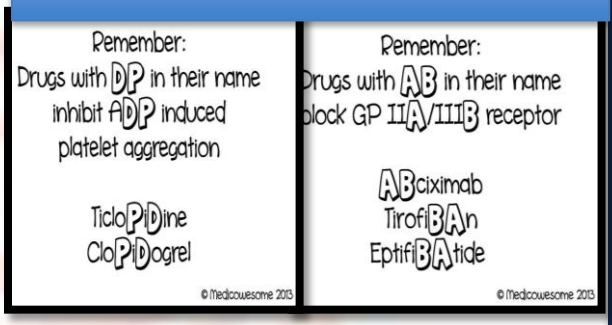
: (Can)asa : I can take the suppositories

(Row)asa : I have to Standing in row to get it الحقيقة نقدر ناخذها بنفسنا بس للتشبيه

Monoclonal antibodies(TNF- alpha inhibitors) : **Infliximab, Adalimumab, Certolizumab pegol**

> Any drug end with "mab" it mean Monoclonal antibodies

From @Med_433



Done by

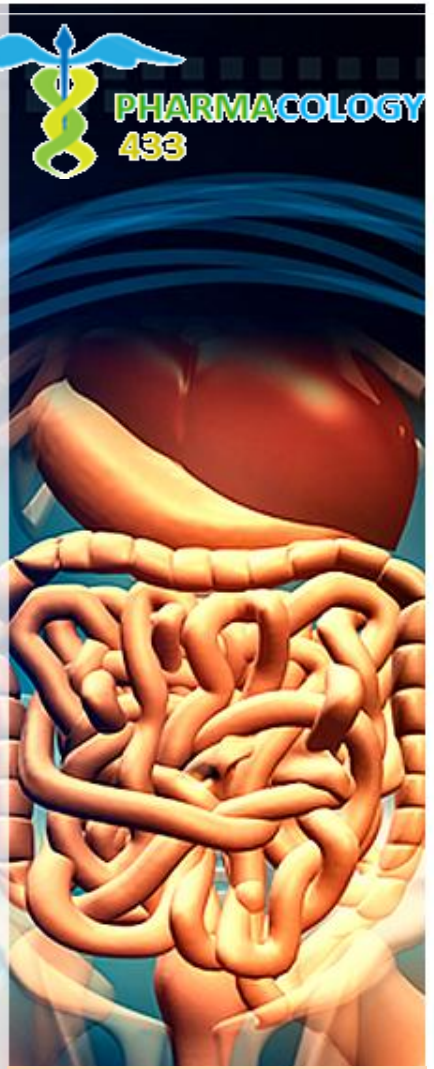
Raneem AlOtaibi	Ahmed Aldakhil
Hanan Aldossari	

Hope this work was good enough to end this semester with , if you have any question or comment please feel free to contact us

wish you all the best in the final

It always seems impossible until it is done

BEST OF LUCK



Contact us:-

Pharma_433@yahoo.com

@pharma_433