

Antiprotozoals

Drugs or chemical which are against the growth of protozoans such as Amoeba, Giardia trichomonas species in humans.

Amoebiasis → Due to *Entamoeba histolytica*
Amoebiasis

Classification

Luminal

ex Iodoquinol

Diloxanide

Paramomycin

Tissue specific

Metronidazole

Tinidazole

Secnidazole

Ornidazole

Dehydroemetin

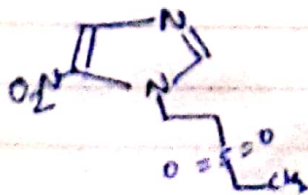
Chemical Class :

Nitroimidazoles

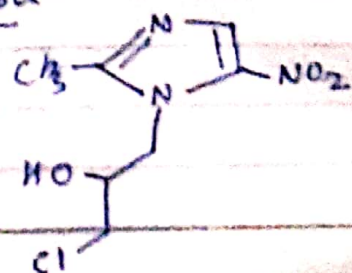
eg (i) Metronidazole



(ii) Tinidazole



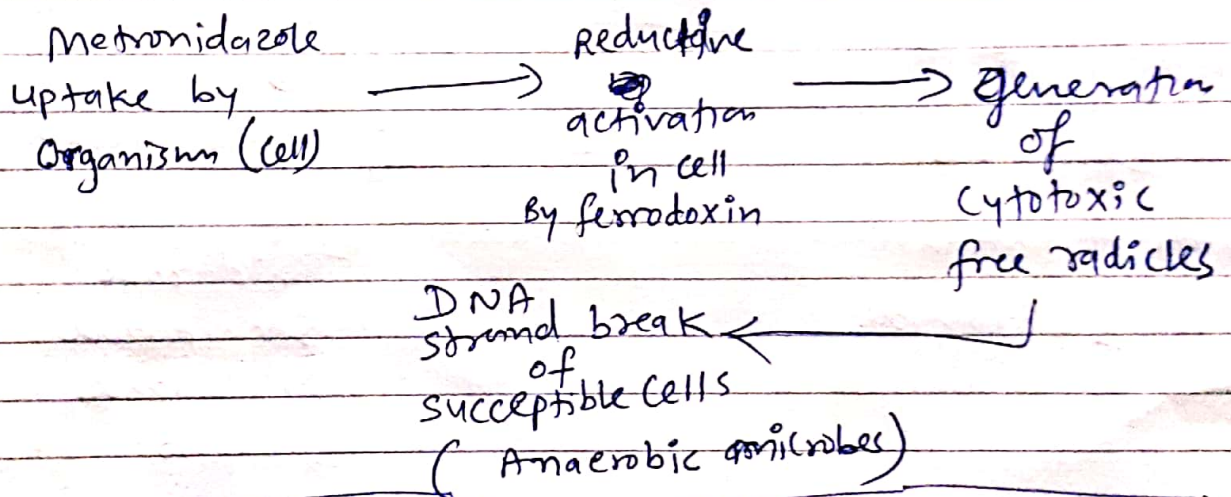
(iii) Ornidazole



Metronidazole

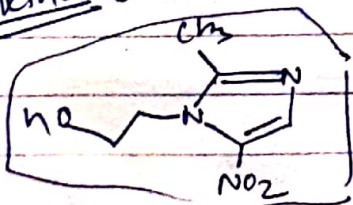
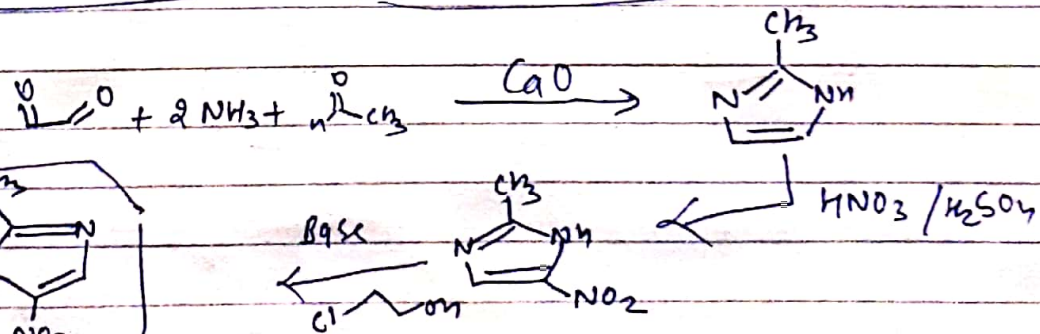
MOA $\Rightarrow$

- $\Rightarrow$ Mainly effective only for anaerobic microbes & protozoans.
- $\Rightarrow$ After diffusion into organism, inhibit protein synthesis by interaction with DNA
- $\Rightarrow$ Causing loss of double helical DNA structure (strand breakage)



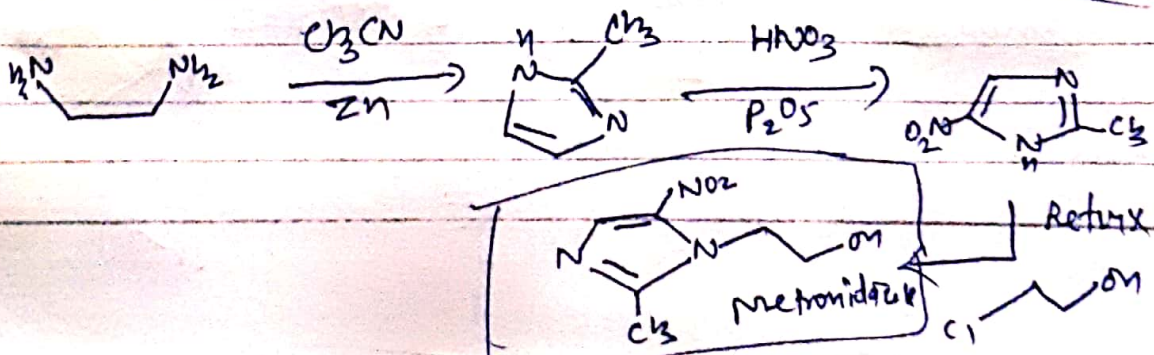
Synthesis

Method I



Metronidazole

Method II



10

April

Thursday

Anti protozoal

W	M	T	W	T	F	S	S
14		1	2	3	4	5	6
15	7	8	9	10	11	12	13
16	14	15	16	17	18	19	20
17	21	22	23	24	25	26	27
18	28	29	30				

Q.1 Write SAR and MOA of ~~ben~~ nitroimidazole class of anti protozoal agents, (10)

Q.2 Write Classification of anti protozoal drugs. (5)

Q.3 Write Short note on tissue specific anti protozoal drugs. (5)

Q.4 Write synthesis of metronidazole & uses. (5)

Q.5 Differential between protozoal & Helmentia infections. (5)

Q.6 Discuss MOAs of deloxanide & iodoquinol (5)

Q.1 Write chemical moiety / scaffold present in iodoquinol, tinidazole (2)

Q.2 Metronidazole act as DNA disrupter / ATP synthesis inhibitor (2)

Q.3 Atovaquone is structural analog of Ubiquinone or fluoroquinone. (2)

Q.4 The specific drug for african sleeping sickness caused by *Trypanosoma brucei gambiense* is ----- (2)

(a) Nifurtimox (b) Eflornithine

Q.5 Metronidazole is a ----- (2)

(a) 2-Nitroimidazole derivative

(b) 5-Nitroimidazole derivative