Enlēro hepatic cycling

High molecular weight substance and protein bound show good excretion in bile in case of Rats, dogs & hew.

Route of administration is influences bilary drug excretion

Orally administered drug which during absorption go to the lives are excreted more in bile in comparison to parentral drugs

Protein and Fat rich food increases bile flow.

The marker used for bilary excretion is sulfo bromophthal

This agent exclusively eliminated unchanged through bile.

The ability of the liver to excrete the drug in bile

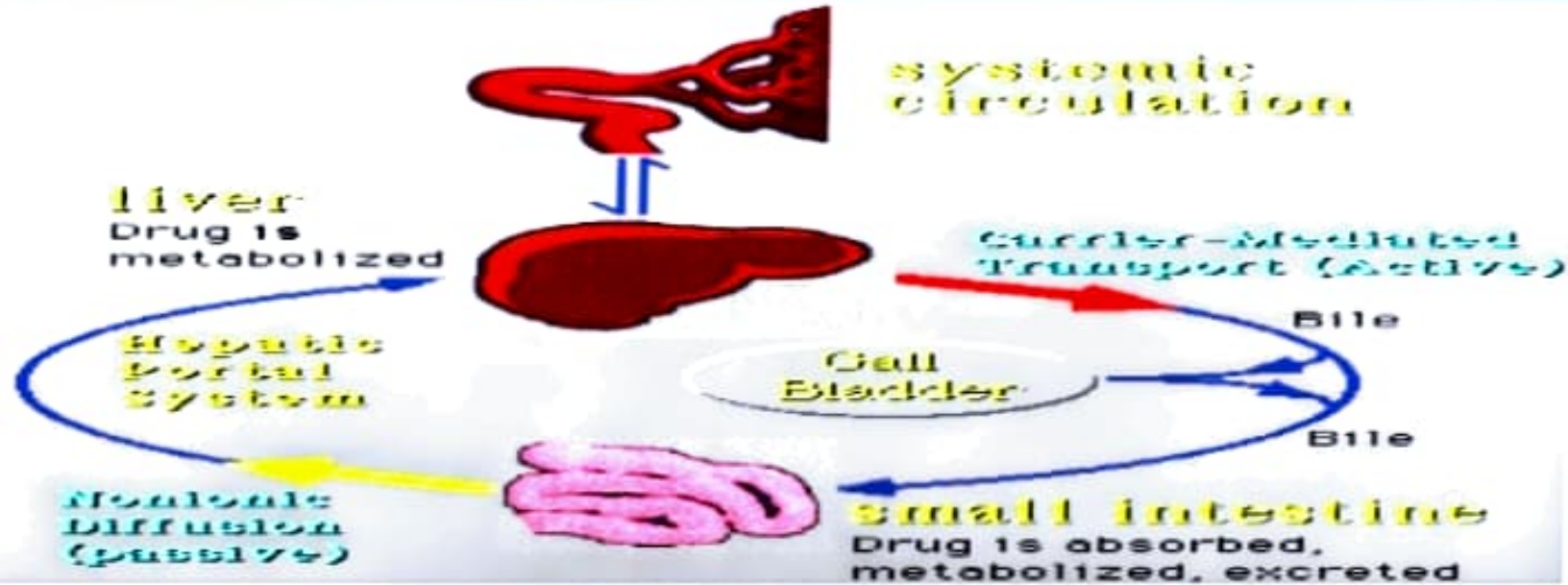
— Bilary clearance:

↳ $\frac{\text{Billary excretion Rate}}{\text{Plasma drug conc.}}$

: $\frac{\text{Bile flow} \times \text{Billary drug conc}}{\text{plasma drug conc.}}$

THE ENTEROHEPATIC CIRCULATION

Some drugs which are excreted as glucuronides/ as glutathione conjugates are hydrolyzed by intestinal/ bacterial enzymes to the parent drugs which are reabsorbed. The reabsorbed drugs are again carried to the liver for resecretion via bile into the intestine. This phenomenon of drug cycling between the intestine & the liver is called Enterohepatic circulation



Enterohepatic Circulation

- A drug or its metabolite is secreted into bile and upon contraction of the gallbladder is excreted into the duodenum via the common bile duct.
- Subsequently, the drug or its metabolite may be excreted into the feces or the drug may be reabsorbed and become systemically available.

Enterohepatic Circulation

- The cycle in which the drug is absorbed, excreted into the bile, and reabsorbed is known as *enterohepatic circulation.*
- Some drugs excreted as a glucuronide conjugate become hydrolyzed in the gut back to the parent drug by the action of a -glucuronidase enzyme present in the intestinal bacteria.
- In this case, the parent drug becomes available for reabsorption.

THE ENTEROHEPATIC CIRCULATION

EC is important in conservation of Vitamins, Folic acid and hormones. This process results in prolongation of half lives of drugs like DDT, Carbenoxolone. Some drugs undergoing EC are cardiac glycosides, rifampicin and chlorpromazine. The principle of adsorption onto the resins in GIT is used to treat pesticide poisoning by promoting fecal excretion.