# Drugs in the liver (lec 1)

| Drugs | features |
|---|---|
| propranolol, lignocaine opiates (like fentanyl, and morphine) | high hepatic extraction ratios >0.7 |
| lorazepam | low hepatic extraction ratios <0.3<br>less affected in liver disease<br>does not require a phase 1 reaction |
| diazepam | low hepatic extraction ratios <0.3<br>,highly protein-bound drugs,<br>(benzodiazepines), |
| methadone. | low hepatic extraction ratios <0.3 |
| benzodiazepines, tricyclic antidepressants and antipsychotic. | metabolized into active metabolites (phase I) |
| Olanzapine, oxazepam | less affected in liver disease<br>does not require a phase 1 reaction<br>(Phase II) |

| Drugs | features | Contraindication |
|---|---|---|
| Digoxin,Warfarin. ,Antibiotics (ceftriaxone, Cefoperazone, macrolides rifampicin, and others), Mycophenolate mofetil. ,Spironolactone, Steroid hormones (e.g., estrogen),Opioids, NSAIDs (e.g., diclofenac & indomethacin), The anticancer doxorubicin | molecular weight of > 300 g/mol<br>with both polar and lipophilic groups<br>excreted in bile and subject to enterohepatic recycling. | NSAIDs are contraindicated for systemic use in most liver disease patients, |
| dexamethasone | safe in patients with chronic stable liver disease. | |
| methyprednisolone | in high doses reactivate HBV<br>Increase spontaneous bacterial peritonitis in severe cases. | |

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# Drugs in the liver (lec 1)

| Drugs | features |
|---|---|
| Carbon tetrachloride | block the secretion of triglycerides, causing fatty liver.<br>metabolized by cytochrome P450 to form free radicals, damage macromolecules causing necrosis<br>hepatic carcinogens for laboratory animals.(Carcinogenesis) |
| tetracycline | block the secretion of triglycerides, causing fatty liver. |
| chronic ethanol | block the secretion of triglycerides, causing fatty liver.<br>damage the hepatocytes & increase the activity of fibroblasts resulting in cirrhosis and fibrosis.<br>cuasing cirrhosis |
| chloroform, bromobenzene, halogenated hydrocarbons, | metabolized by cytochrome P450 to form free radicals, damage macromolecules cuasing necrosis |
| Troglitazone | trigger apoptosis in hepatocytes. |

| Drugs | features | Uses |
|---|---|---|
| Paracetamol (acetaminophen) | overdose (>5-6 gm/day in adults) and a glutathione depletion (in liver cirrhosis); lead to significant necrosis and hepatotoxicity | |
| N-acetylcysteine | | used for treating paracetamol induced liver toxicity. |
| steroids (£ contraceptives), phenothiazines, tricyclic antidepressants. | Can cuase Cholestasis and gall stones | |
| Clofibrate | increase the risk for gallstone formation. | |

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# Drugs in the liver (lec 1)

| Drugs | features |
|---|---|
| anesthetic halothane | cause a condition resembling viral hepatitis. |
| Valproic acid | cause fulminant hepatitis in children |
| chloroform | hepatic carcinogens for laboratory animals.(Carcinogenesis) |
| Aflatoxins | potential hepatic carcinogens. |
| vinyl chloride | causes a rare type of liver cancer known as angiosarcoma |

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