

# *Complementary and Alternative medicine*

**PHG 323 (*Phytotherapy*)**

**Part 6**



**Department of Pharmacognosy – College of Pharmacy - KSU**

# Phytotherapy (cont.)

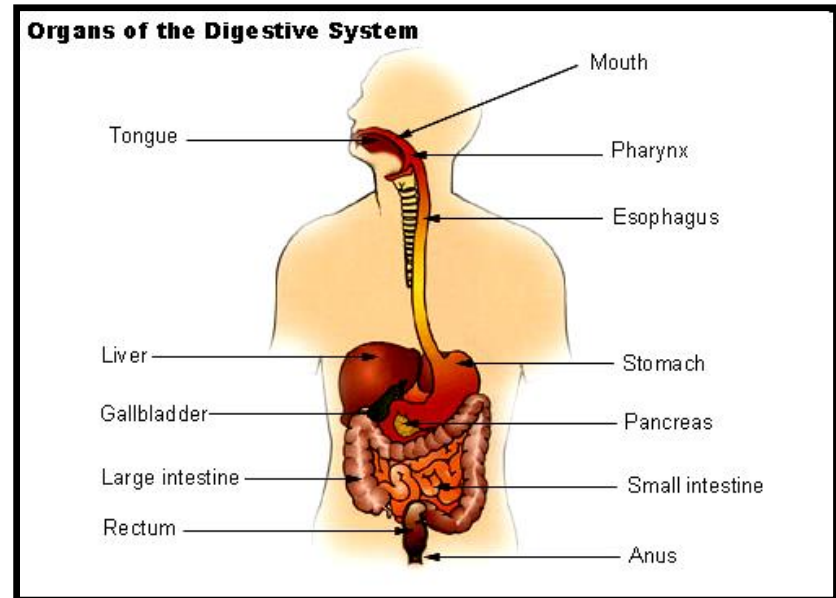
## 2) Gastro-Intestinal Disorders

Among the GIT disorders that could be treated by phytotherapy:

- I) **Stomatitis** التهاب الفم
- Gingivitis** التهاب اللثة
- Glossitis** التهاب اللسان

- II) **Stomach** and Intestinal Disorders

- III) **Liver** and **Biliary Tract** Disorders اضطرابات القناة الصفراوية

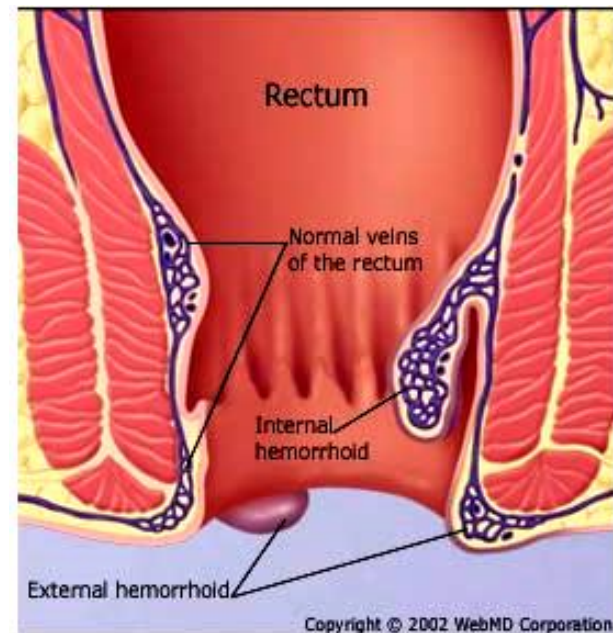


## II. Stomach and Intestinal Disorders

- 1) **Functional dyspepsia** سوء الهضم
- 2) **Flatulence** الانتفاخ
- 3) **Gastritis and Peptic ulcers** التهاب المعدة / قرحة المعدة والإثني عشر
- 4) **Constipation** الإمساك
- 5) **Diarrhea** الإسهال
- 6) **Irritable Bowel Syndrome (IBS)** القولون العصبي
- 7) **Hemorrhoids** البواسير
- 8) **Intestinal worms** الديدان المعوية

## 7. Hemorrhoids البواسير:

- Hemorrhoids result from **increased pressure** in the hemorrhoidal veins (in rectum) → veins **swelling** → **pain**, particularly while sitting.
- Hemorrhoids may be caused or aggravated by:
  - Anal **infections**
  - **Constipation**
  - Sitting for a **long time**
  - **Pregnancy**
  - Lifting **heavy weight**
- **Symptoms** of hemorrhoids include anal **itching** and **pain**, bright red **blood** in stool, and **pain** during bowel movement



- Generally, **treatment** of hemorrhoids is achieved by the following:
  - **Increase** dietary **fiber**, both soluble and insoluble
  - **Mucilage** containing herbs such as *Psyllium* to keep the stool **soft**
  - **Phytotherapy**:
    - *Aesculus* (Horse chestnut) as:
      - **Oral use** will **improve venous** and **connective tissue** conditions
      - **Topical use** has **astrigent effect**
    - **Plant flavonoids (Rutin, Diosmin, Quercetin)** strengthen the hemorrhoidal veins.



## 8. Intestinal worms:

- **Means of exposure/infection include:**
  - **Ingestion** of undercooked meat
  - **Drinking** infected water
  - **Skin penetration**
  - **Bad Hygiene** (no hand wash, etc.)
- **The parasitic intestinal worms include:**
  - **Nematode** الديدان الأسطوانية (e.g. *Ascaris*, hook worms, thread worms, pin worms etc.)
  - **Cestode = Tape worms** الديدان الشريطية (e.g. *Taenia* spp.)
  - **Trematode = Fluke** الديدان المفلطحة (e.g. *Fasciola hepatica*)
- **Anthelmintics** are agents which target parasitic worms in the body and aid their removal either by stunning or killing them.

## Phytotherapy of intestinal worms

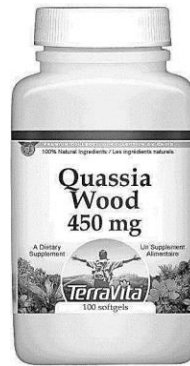
### a) Garlic:

- It showed **anthelmintic** activity against **Nematodes**
- Garlic **warm tea** or **powder** should be taken **in conjunction with enema** to **stimulate** the bowel activity to **drive** the worms to the **lower bowel** and so they **gradually** become expelled.

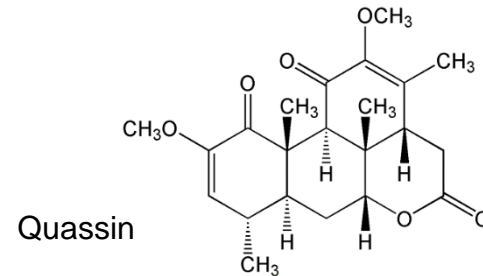


### b) *Quassia* خشب المر:

- It is the heartwood of *Quassia amara*, known as "**bitterwood**"
- Key constituent: **quassin** (intensely bitter-tasting compound)
- Used as **enema** or **orally** for treatment of threadworm (*Oxyuris*)

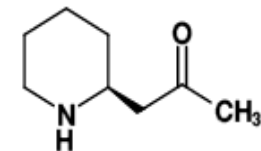


## Intestinal worms



### c) Pomegranate bark: *Punica granatum* قشر الرمان

- Key constituent: **alkaloids (Pelletierine, Isopelletierine, and Methyl pelletierine)**.
- It is commonly used against tapeworm (e.g. *Taenia solium*).
- It is used as a decoction or in the form of **Pelletierine tannate (U.S.P.)**.



Pelletierine



### c) Myrrh: مُر

- It is oleo-gum-resin exudated from the trees of *Commiphora molmol*
- Key content: Volatile oil (2-10%) which contain **sesquiterpenes** – Terpenes (30-50%).
- The **gum-free oleoresin extract** of myrrh (Mirazid®) is marketed by Pharco Pharmaceuticals Co. and indicated as (schistosomicidal and fasciolicidal ) agent.
- The **tincture of myrrh** has also been used as an antiseptic to be applied to inflamed lesions of the mouth and throat.

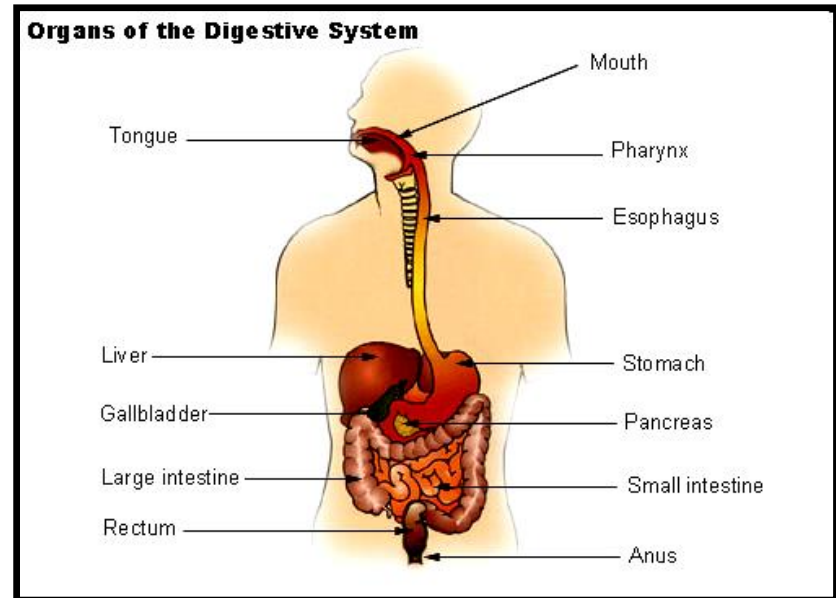


# Phytotherapy (cont.)

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## III) Liver and Biliary Tract Disorders

### ▪ Liver diseases include:

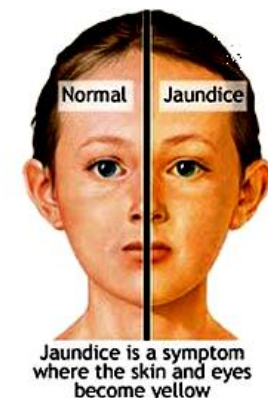
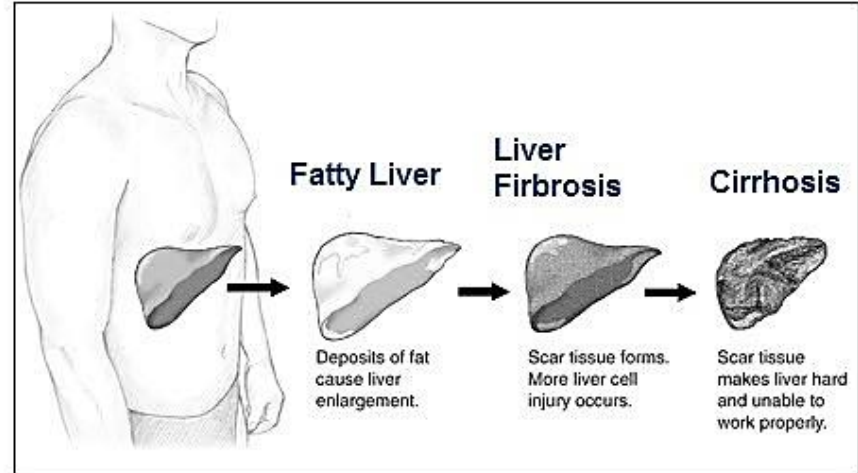
1) **Acute** and **chronic hepatitis** (inflammatory diseases).

2) **Liver steatosis (fatty liver), fibrosis, and cirrhosis.**

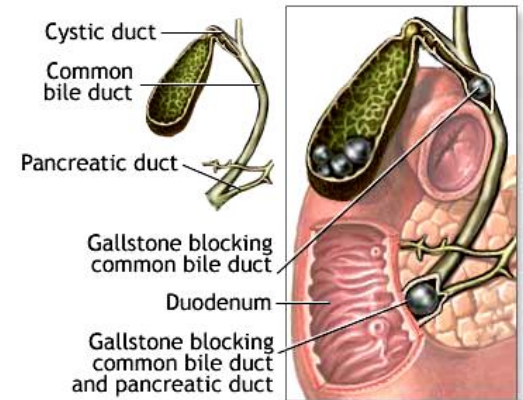
- ***N.B. Liver transplantation is the only treatment for advanced cirrhosis with hepatic failure.***

3) **Jaundice:** It shows characteristic **symptoms** such as

- **Yellow eyes, skin and tongue**
- **Fever**
- **Dark urine**
- **Light-colored stool**



- Jaundice may be caused by:
  - A **diseased** or **damaged liver** (e.g. in **hepatitis**)
  - The **flow** of bile from the **liver** to the **intestines** may be blocked by **gallstones**, tumors, or **parasites**.



ADAM.

## 1) Acute hepatitis:

- Common **causes** of acute hepatitis include:
  - **Infection** with a virus (viral hepatitis A, B and C viruses)
  - **Overdose** of drugs e.g. acetaminophen
  - **Chemical** exposure

### Causes of Hepatitis B



Body Piercing



Tattooing



Vertical Transmission



Blood Transfusion

- Acute hepatitis can be **treated** with **phytotherapy**.
- In the case of **hepatitis A**, treatment can lead to **rapid recovery**.
- For **hepatitis B** and **C**, herbal treatment will mainly help to **prevent** the disease becoming **chronic**.

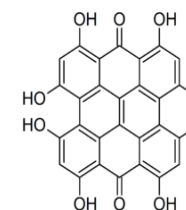
➤ **Essential aspects of treatment:**

**1. Diaphoretics** are indicated in all acute infections accompanied by **fever**.

→ These include e.g. *Tilia* best taken as infusion

**2. Antiviral agents** for hepatitis e.g. *Hypericum perforatum* (St. John's wort).

- Hypericin is an aromatic polycyclic **dianthrone**.



Hypericin

3. Immune-enhancing herbs, especially *Echinacea*.



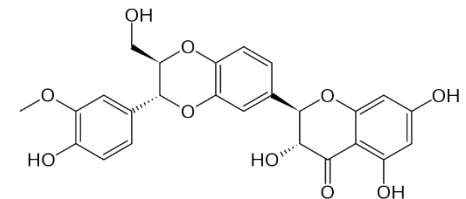
4. **Hepatoprotective** agents to minimize liver damage:

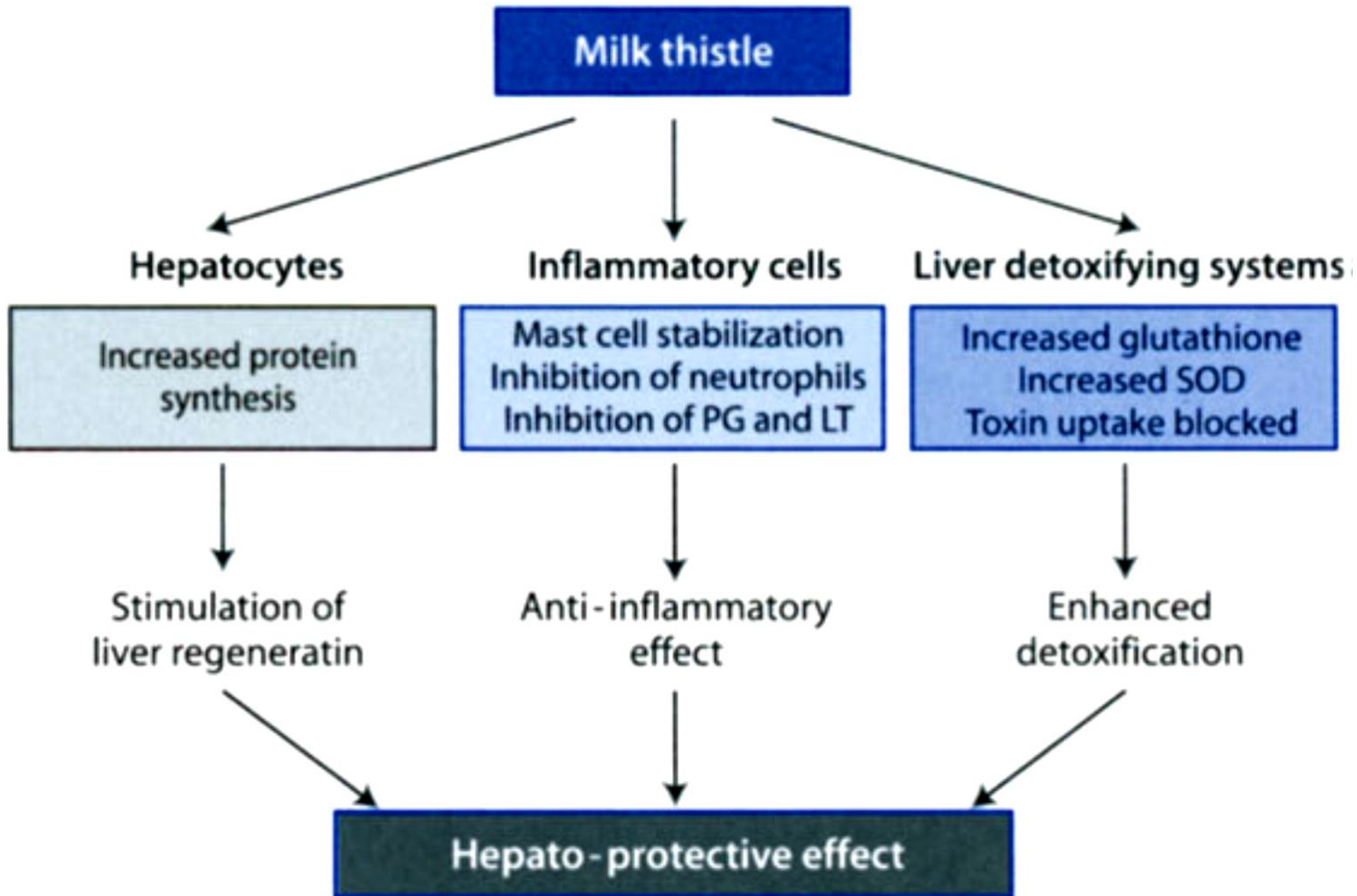
○ e.g. The seeds of *Silybum marianum* (Milk Thistle):

- Contains a mixture of **flavanolignans** called silymarin, the **major** active constituent of which is **silybin** (Silibinin) which shows the following effects:



- Antihepatotoxic
- An **antioxidant** (free radical-scavenger)
- Anti-fibrotic
- Antiinflammatory.
- Stimulation of protein synthesis → acceleration of liver regeneration





**Hepato-protective effect of milk thistle (or silymarin)**

- **Pharmaceutical preparation:**

- A **standardized** seed extract (a **flavanolignans complex: silymarin**)



*Silymarin powder*



## 2) Chronic hepatitis:

- Some common **causes** include:
  - Patients who **did not** fully recover from **acute hepatitis**
  - Heavy alcohol consumption
  - Autoimmune disorder
- **Symptoms** are usually **mild** but the liver **damage** continues although its progression is usually slow.



- Hepatitis is considered **chronic** if symptoms persist **longer than six months** and can last for several **years**.
- **Essential aspects of treatment:**
  - **Immune-enhancing** agents such as *Echinacea*.
  - **Hepatoprotective** agents are described taking in consideration that *Silybum* when used must be in a **more concentrated form**.
  - **Antiviral** agents (in viral hepatitis)

### 3) Liver cirrhosis:

- In cirrhosis, **widespread death** of **liver cells** occurs accompanied by progressive **fibrosis** and **distortion** of liver **architecture**.
- Usually results mainly due to **alcohol abuse** or **Bilharzia**.
- The main phytotherapy is concentrated tablets of *Silymarin*
- *Cynara* (Artichoke) leaf extract can also maintain liver health