



MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY



OP Vzdělávání
pro konkurenceschopnost

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

PHYTOPHARMACEUTICALS

academic year 2018/19

LECTURE 7 – Preparations used to treat some disorders of digestive system - I

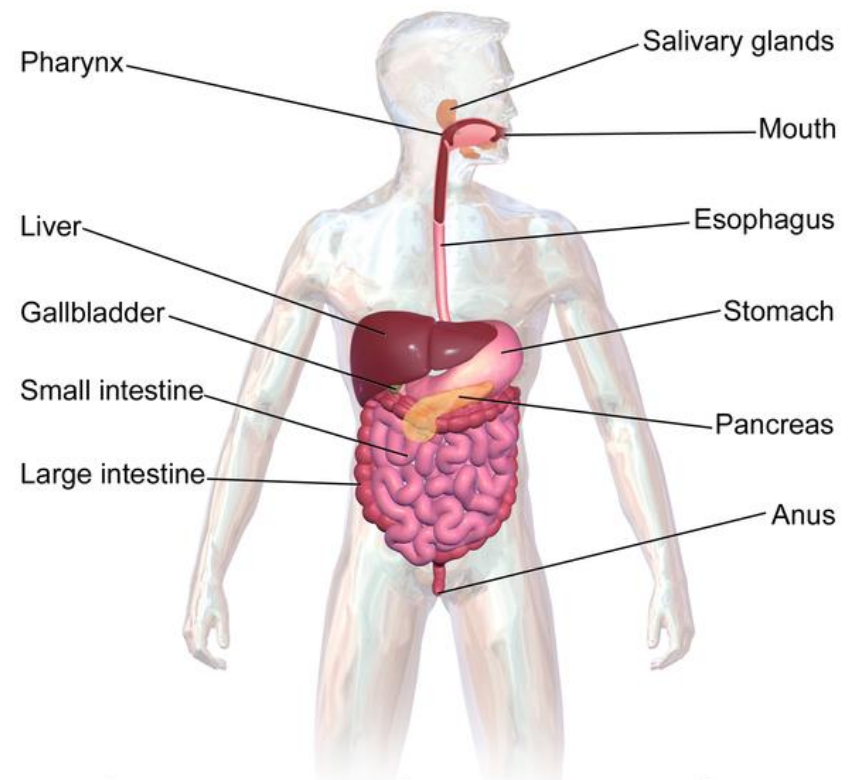
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PHYTOPHARMACEUTICALS

vs. Digestive system (GIT = Gastrointestinal tract)

Major disorders of GIT that can be treated by phytomedicines:

- ▶ digestive disorders
- ▶ damaged mucosa of GIT
 - ▶ ulceration
 - ▶ inflammation (pharyngitis, gastroenteritis)
- ▶ vomiting
- ▶ diarrhoea/constipation
- ▶ some cases of infection, intoxication

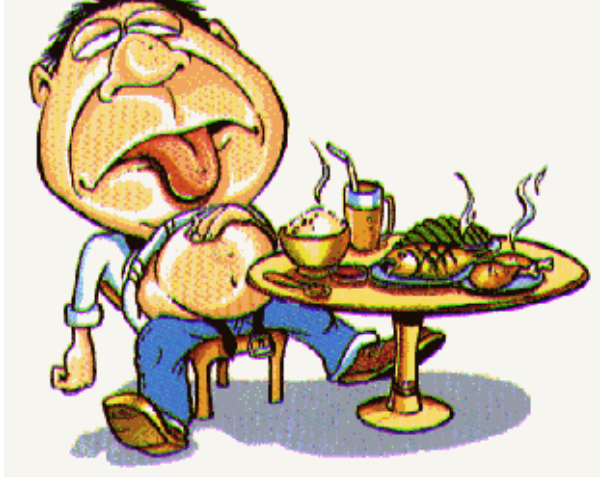


The Components of the Digestive System

Therapy of DIGESTIVE COMPLAINTS

Dyspepsia – general term for digestive disorders = indigestion.

Symptoms:

- ▶ pain in the upper abdomen
 - ▶ heartburn (= pyrosis), hyperacidity
 - ▶ feeling of fullness, distension
 - ▶ belching, sickness, nausea
 - ▶ bloating, flatulence, meteorism
 - ▶ loss of appetite, poor appetite
- 
- ▶ Dyspepsia is frequently caused by **gastroesophageal reflux disease (GERD)** or gastritis, in a minority of other impairment of digestive system function.

Therapy of DIGESTIVE COMPLAINTS

- ▶ **stomachic drugs** – digestion-stimulating, appetite-stimulating drugs
- ▶ **cholagogic drugs, cholagogues** – encourage the production and release of bile (fat digestion)
- ▶ **carminatives** – act against flatulence, meteorism
- ▶ **spasmolytics** – provide a mild relief for cramps (spasms) of smooth muscle tissue
- ▶ **antiphlogistics, anti-inflammatory agents** – for healing of inflamed mucosa of digestive tract – pharyngitis, gastroenteritis, intestine catarrh
- ▶ **drugs for the treatment of peptic ulcers** – for acceleration of healing to lessen the risk of dangerous complications
- ▶ **laxatives/antidiarrhoeal agents**

STOMACHIC DRUGS

- ▶ herbs that act most directly on the stomach, stimulate secretion of gastric juice, increase gastric tonus and relieve the generalized stomach pain and cramping. They can stimulate also pancreatic secretion.

- ▶ **Contra-indications**

Do not use stomachic in case of:

- ▶ an acute stomach or intestine catarrh (gastritis, enteritis, colitis)
- ▶ hyperacidity of the stomach
- ▶ an acute gastric or duodenal ulcers
- ▶ Crohn´s disease
- ▶ significant functional disorder of the liver, kidney, in case of heart failure,...
- ▶ digestive disorders of unclear origin



STOMACHIC DRUGS

active constituents of plant drugs:

- ▶ **essential oils** – aromatic plant drugs (seeds, herbs), spices
 - ▶ e.g. of the families Apiaceae, Lamiaceae, Lauraceae, Myristiceae, Zingiberaceae, Pinaceae, Cupressaceae...
- ▶ **bitter principles**
 - ▶ bitter-tasting compounds with no other pharmacological effects
 - ▶ different structures – mainly terpenes, of plant families:
 - Gentianaceae – monoterpenes (iridoids, secoiridoids,...)
 - Asteraceae – sesquiterpenic lactones
 - ▶ other bitter-tasting compounds: some flavonoids (e.g. in *Citrus aurantium* pericarp), alkaloids (e.g. quinine of *Cinchona* bark)

STOMACHIC DRUGS

Plant drugs containing **essential oils**, e.g.:

- ▶ Apiaceae family – mainly fruits, or other plant parts – root, herb
 - ▶ Anisi fructus – *Pimpinella anisum*, anise seed
 - ▶ Foeniculi amari fructus – *Foeniculum vulgare*, fennel
 - ▶ Carvi fructus – *Carum carvi*, caraway seed
 - ▶ Coriandri fructus – *Coriandrum sativum*
 - ▶ Levistici radix – *Levisticum officinale*
 - ▶ Angelicae radix – *Angelica archangelica*
 - ▶ herbs – e.g. parsley (*Petroselinum*), celery (*Apium graveolens*)
- ▶ Lamiaceae family – herbs
 - ▶ *Ocimum basilicum*, *Thymus vulgaris*, *Majorana hortensis*, *Salvia officinalis*, *Satureja hortensis*, *Mentha* sp., *Origanum vulgare*, *Rosmarinus officinalis*,...

STOMACHIC DRUGS

Other plant drugs containing **essential oils**, e.g.:

- ▶ Calami aromatici rhizoma – *Acorus calamus*, Acoraceae, sweet-flag
- ▶ Myristicae semen/flos – *Myristica fragrans*, Myristicaceae, nutmeg
- ▶ Zingiberis rhizoma – *Zingiber officinale*, Zingiberaceae, ginger
- ▶ Galangae rhizoma – *Alpinia officinarum*, Zingiberaceae, galanga
- ▶ Cardamomi fructus – *Elettaria cardamomum*, Zingiberaceae, cardamom
- ▶ Cinnamomi cortex – *Cinnamomum zeylanicum*, Lauraceae, cinnamon
- ▶ Anisi stellati fructus – *Illicium verum*, Illiciaceae, star anise

STOMACHIC DRUGS – essential oils



Acorus calamus
rhizome



Archangelica officinalis
root



Illicium verum,
fruit



Myristica fragrans
seed/flower



Zingiber officinale
rhizome



Cinnamomum zeylanicum
bark



Elletaria cardamomum
fruit

STOMACHIC DRUGS

Plant drugs containing **bitter principles** – terpenic structures (iridois, secoiridoids, sesquiterpenic lactones,...):

- ▶ Gentianae radix – *Gentiana lutea*, Gentianaceae, gentian
- ▶ Centaurii herba – *Centaurium erythraea*, Gentianaceae, centaury
- ▶ Trifolii fibrini folium – *Menyanthes trifoliata*, Menyanthaceae, common bogbean
- ▶ Absinthii herba – *Artemisia absinthium*, Asteraceae, wormwood
- ▶ Millefolii herba – *Achillea millefolium*, Asteraceae, yarrow
- ▶ Cnici benedicti herba – *Cnicus benedictus*, Asteraceae, holy thistle

STOMACHIC DRUGS – bitter principles



Gentiana lutea
root



Centaurium erythraea
herb



Artemisia absinthium
herb



Achillea millefolium
herb



Menyanthes trifoliata
leaf



Cnicus benedictus
herb

STOMACHIC DRUGS

Plant drugs containing **bitter principles** – terpenic structures, e.g.:

- ▶ Condurango cortex – *Marsdenia condurango*, Apocynaceae, marsdenia
- ▶ Quassiae lignum – *Quassia amara* or *Picrasma excelsa*, Simaroubaceae, amargo (bitter ash, quassia wood)
- ▶ Salviae folium – *Salvia officinalis*, Lamiaceae, red sage (picrosalvin)

Other **bitter-tasting** drugs, e.g.:

- ▶ Aurantii pericarpium – *Citrus aurantium* subsp. *amara*, Rutaceae – bitter-orange peel – **bitter-tasting flavonoids**
- ▶ Lupuli flos – *Humulus lupulus*, Cannabaceae, hop – **bitter substances in resin** (humulone, lupulone)
- ▶ Cinchonae cortex – *Cinchona* sp., Rubiaceae – **alkaloid quinine**
- ▶ Lichen islandicus – *Cetraria islandica*, Parmeliaceae, iceland moss – **bitter-tasting lichen acids**

STOMACHIC DRUGS



Marsdenia condurango
bark



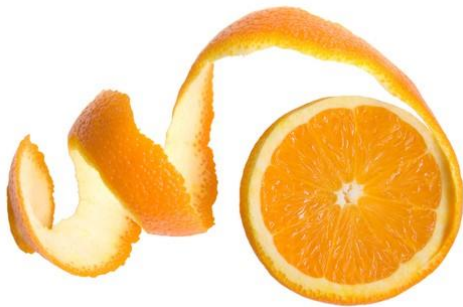
Quassia amara
wood



Salvia officinalis
leaf



Cinchona sp.
bark



Citrus aurantium
peel (pericarp)



Humulus lupulus
flowers



Lichen islandicus

STOMACHIC DRUGS

Other **stomachic plant drugs**, e.g.:

- ▶ Capsici fructus – *Capsicum annuum*, *C. frutescens*, Solanaceae, pepper
- ▶ Piperis nigri fructus – *Piper nigrum*, Piperaceae, black pepper



CHOLAGOGUES

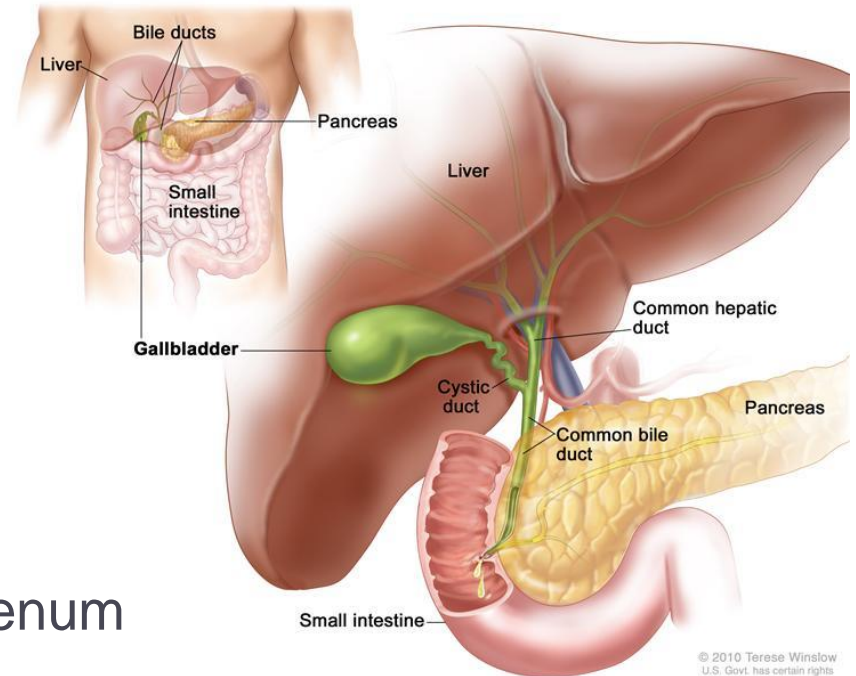
▶ = herbal drugs that support production and the flow of bile into the small intestine

▶ **choleretics**

= direct cholagogues, stimulate bile production in liver

▶ **cholekinetics**

= indirect cholagogues, promote the flow of bile from the gall bladder into the duodenum



▶ The role of bile is partially that of facilitating **fat** digestion but also of being a natural laxative

CHOLAGOGUES

- ▶ **Indications of cholagogues:**
 - ▶ to stimulate normal contractions to deliver bile to the small intestine
 - ▶ for disorders caused by insufficient or congested bile, such as intractable biliary constipation, jaundice and mild hepatitis
 - ▶ for symptoms of indigestion of fat-soluble substances
 - ▶ for helping the liver's detoxification work
 - ▶ for gallstones, unless they are lodged in the bile duct and causing a great deal of pain
- ▶ **Contra-indications of cholagogues:**
 - ▶ painful gallstones, acute bilious colic, obstructive jaundice
 - ▶ acute cholecystitis unless gallstones, acute viral hepatitis, extremely toxic liver disorders

CHOLAGOGUES

- ▶ all bitter-tasting herbs are cholagogues to some degree
- ▶ active constituents of plant drugs:
 - ▶ **essential oils**
 - ▶ **bitter principles** – bitter-tasting compounds – terpenic structures (iridoids, secoiridoids, diterpenes,..)
 - ▶ some **flavonoids** and other phenolic structures
 - ▶ some **alkaloids** – act as stimulators of liver function (production of bile)

CHOLAGOGUES

Plant drugs containing **essential oils** and **bitter terpenes**,
e.g.:

- ▶ Menthae piperitae herba/folium – *Mentha piperita*, Lamiaceae, peppermint
- ▶ Marrubii herba – *Marrubium vulgare*, Lamiaceae, white horehound
- ▶ Taraxaci radix cum herba – *Taraxacum officinale*, Asteraceae, dandelion
- ▶ sesquiterpenic lactones from Absinthii herba, Millefolii herba,...
- ▶ iridoids, secoiridoids from Gentianae radix, Centaurii herba, Trifolii fibrini folium,...

CHOLAGOGIC HERBS



Mentha piperita



Taraxacum officinale



Artemisia absinthium



Centaurium erythraea



Marrubium vulgare



Achillea millefolium



Menyanthes trifoliata



Gentiana lutea

CHOLAGOGUES

Other plant drugs used as **cholagogues**, e.g.:

- ▶ Curcumae rhizoma – *C. longa*, *C. xanthorrhiza*, *C. zedoaria*, Zingiberaceae, turmeric – phenolic compounds, essential oils
- ▶ Cynarae radix/folium – *Cynara scolymus*, Asteraceae, globe artichoke – phenolic acids derivatives
- ▶ Boldo folium – *Peumus boldus*, Monimiaceae, boldo – alkaloids
- ▶ Berberis radices cortex – *Berberis vulgaris*, Berberidaceae, barberry – alkaloids
- ▶ Chelidonii herba – *Chelidonium majus*, Papaveraceae, greater celandine – alkaloids
- ▶ Fumariae herba – *Fumaria officinalis*, Papaveraceae, fumitory – alkaloids

CHOLAGOGIC HERBS



Curcuma longa



Peumus boldus



Fumaria officinalis



Cynara scolymus



Chelidonium majus



Berberis vulgaris

CHOLAGOGUES

Other plant drugs used as cholagogues,
e.g.:

- ▶ *Silybi mariani fructus* (= *Cardui mariae fructus*)
Silybum marianum (*Carduus marianus*),
Asteraceae, milk-thistle herb
- ▶ 1.5-3% silymarin, a mixture of various flavonoid derivatives (flavonolignans) present only in the fruit – the principal components are **silybin**, **silichrystin**, **silydianin**
- ▶ used mostly as a hepatoprotective agent but also as a component in preparations for bilious disorders



Therapy of DIGESTIVE COMPLAINTS

Other plant drugs used in digestive preparations, e.g.:

- ▶ *Matricariae flos* – *Matricaria (Chamomilla) recutita*, Asteraceae, chamomille
 - ▶ essential oils, terpenic lactones, mucilage, flavonoids, coumarines
 - ▶ as an antiphlogistic, spasmolytic, carminative and stomachic; disinfectant, calming properties
- ▶ *Hyperici herba* – *Hypericum perforatum*, Hypericaceae, St. John´s wort
 - ▶ flavonoids, other phenolics, essential oils, tannins,...
 - ▶ anti-inflammatory and healing properties on mucose of gastrointestinal system



Therapy of DIGESTIVE COMPLAINTS

Other plant drugs used in digestive preparations, e.g.:

- ▶ *Agrimoniae herba* – *Agrimonia eupatoria*, Rosaceae, common agrimony
 - ▶ tannins, flavonoids,...
 - ▶ anti-inflammatory and healing properties in GIT, astringent effect
- ▶ *Aspalathi folium* – *Aspalathus linearis*, Fabaceae, rooibos
 - ▶ mainly phenolic compounds (flavonoids, chalcones, phenolic acids),...
 - ▶ positive effect on digestion



DIGESTIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ TINCTURA AMARA

- ▶ alcoholic extract (= tincture) of plant drugs containing bitter principles
- ▶ maceration of four plant drugs in ethanol 60%:
 - ▶ Absinthii herba 10 g
 - ▶ Trifolii fibrini folium 30 g
 - ▶ Aurantii pericarpium 30 g
 - ▶ Gentianae radix 30 g
 - ▶ Spiritus dilutus 1340 g
- ▶ macerate 7 days at room temperature and add:
 - ▶ 0.25 g Cinnamomi corticis etheroleum



DIGESTIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ ORIGINAL SCHWEDENBITTER Drops

POR GTT SOL 1x500ML

(Riviera Handels GmbH, Austria)

- ▶ Extractum herbarum ethanolicum:
extr. Absinthii herba, Gentianae radix,
Angelicae radix, Calami rhizoma, Tormentillae
rhizoma, Gummi-resina myrrha, Taraxaci radix,
Marrubii herba, Zedoariae radix,
Myristicae semen/flos, Juglandis pericarpium,
Electuarium theriaca sine opio
- ▶ contains 38 % of alcohol (V/V)
- ▶ SUKL code: 0046796
OTC medicinal product
- ▶ ATC: V11 (Phytopharmaceuticals and animal
products)



DIGESTIVE PREPARATIONS

Drops, tinctures, medicinal solutions

- ▶ **Dr. Theiss
SCHWEDEN BITTER**
 - ▶ mixture of 13 herbal drugs
 - ▶ 1 teaspoon before meal (3 times daily), or 1-2 teaspoons after „heavy meal“



- ▶ **CONDURANGO WINE
(Herbadent)**
 - ▶ malt wine enriched with water-alcoholic extract of *Marsdenia condurango* bark
 - ▶ suitable for the treatment of digestive disorders, in case of loss of appetite



DIGESTIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ KLOSTERFRAU MELISANA Concentrate POR+DRM SOL 1X95ML (Klosterfrau Berlin GmbH, Germany)

- ▶ oral drops, solution for external use
- ▶ Extractum herbarum ethanolicum 40,81 mg in 1 mL:
extr. Melissae folium 4,2 mg, Inulae radix 5,6 mg,
Angelicae radix 5,6 mg, Zingiberis radix 5,6 mg,
Caryophylli flos 2,3 mg, Galangae radix 2,3 mg,
Piperis nigri fructus 0,57 mg, Gentianae radix 5,6 mg,
Myristicae semen 0,57 mg, Aurantii pericarpium 5,6 mg,
Cinnamomi cortex 2,5 mg, Cassiae flos 0,29 mg,
Cardamomi fructus 0,08 mg
- ▶ contains 66.8 % of alcohol (V/V)
- ▶ SUKL code: 0066927
OTC medicinal product
- ▶ ATC: V11 (Phytopharmaceuticals and animal products)



DIGESTIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ AMOL POR GTT SOL 1X100ML (Takeda GmbH, Germany)

- ▶ oral drops, solution for external use

▶ Citronellae etheroleum	0.1 g
▶ Caryophylli floris etheroleum	0.1 g
▶ Cinnamomi zeylanici corticis etherol.	0.24 g
▶ Citri etheroleum	0.57 g
▶ Menthae piperitae etheroleum	0.24 g
▶ Lavandulae etheroleum	0.24 g
▶ Levomentholum	1.723 g

in 100 mL

- ▶ contains 68 % of alcohol (V/V)
- ▶ SUKL code: 0049027
- ▶ OTC medicinal product
- ▶ ATC: V11 (Phytopharmaceuticals and animal products)



DIGESTIVE PREPARATIONS

Herbal teas

▶ STOMARAN

(Leros)

- ▶ 20x 1.5 g or 1x 100g
- ▶ Angelicae radix
- ▶ Calami rhizoma
- ▶ Matricariae flos
- ▶ Agrimoniae herba
- ▶ Centaurii herba
- ▶ Hyperici herba
- ▶ Rubi fruticosi folium
- ▶ Menthae pip. herba
- ▶ Foeniculi amari fructus
- ▶ SUKL code: 0043959
- ▶ ATC: V11



- ▶ Properties: stomachic, digestive, carminative, mild spasmolytic, antiphlogistic, choleric effects
- ▶ suitable for digestive disorders, loss of appetite, flatulence, feeling of fullness, abdominal distension
- ▶ suitable also in case of gallbladder disorders as a support treatment
- ▶ for adults and children over 12y.
- ▶ CI: hypersensitivity to any component, acute inflammation of GIT, ulcerative disorders, biliary obstruction

DIGESTIVE PREPARATIONS

Herbal teas

▶ STOMACHIC HERBAL TEA

(Megafyt Pharma)

- ▶ POR SPC 20X1.5GM
 - ▶ Absinthii herba 300 mg
 - ▶ Menthae piperitae herba 300 mg
 - ▶ Millefolii herba 300 mg
 - ▶ Hyperici herba 150 mg
 - ▶ Levistici radix 150 mg
 - ▶ Liquiritiae radix 150 mg
 - ▶ Foeniculi fructus 150 mg
- in 1 tea bag (1.5 g)
- ▶ SUKL code: 0076433
 - ▶ ATC: V11

- ▶ suitable for digestive disorders, loss of appetite, flatulence, feeling of fullness, abdominal distension
- ▶ for adults and children over 12 years

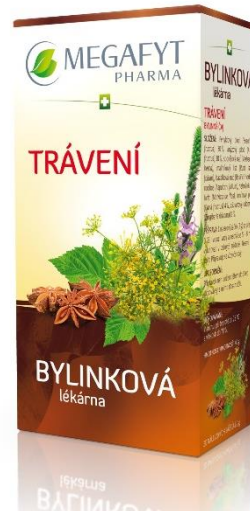


DIGESTIVE PREPARATIONS

Herbal teas

▶ DIGESTIVE HERBAL TEA (Megafyt Pharma)

- ▶ 20 x 2.0 g
- ▶ Foeniculi fructus 30 %
Anisi fructus 30 %
Verbenae herba
Rubi idaei folium
Basilici herba
Aspalathi folium
(= rooibos)
Matricariae flos
Carvi fructus 4 %
Zingiberis rhizoma 2 %



▶ Leros Natur DIGESTIVE Herbal Tea

- ▶ 20 x 1.5 g
- ▶ Menthae piperitae herba 30 %
Cymbopogonis herba 20 %
(= lemongrass)
Serpylli herba 20 %
Carvi fructus 10 %
Matricariae flos 10 %
Zingiberis rhizoma 10 %



DIGESTIVE PREPARATIONS

Herbal teas

▶ STOMACH and INTESTINES

Herbal Tea (Teekanne)

- ▶ 10 x 2.0 g
- ▶ Menthae piperitae folium 40 %
- ▶ Matricariae flos 30 %
- ▶ Liquiritiae radix
- ▶ Cinnamomi cortex
- ▶ Melissa folium 5%



▶ GASTRIC HERBAL TEA

with agrimony (Apotheke)

- ▶ 20 x1.5 g
- ▶ Millefolii herba
- ▶ Agrimoniae herba
- ▶ Hyperici herba
- ▶ Matricariae flos
- ▶ Calami rhizoma
- ▶ Angelicae radix



CHOLAGOGIC PREPARATIONS

Drops, tinctures, medicinal solutions

- ▶ **IBEROGAST POR GTT SOL 1x20ML**
(STEIGERWALD Arzneimittelwerk GmbH)
 - ▶ contains fluid hydro-alcoholic extract of:
Iberidis amarae herba, Angelicae radix,
Matricariae flos, Carvi fructus, Silybi mariani
fructus, Melissaefolium, Menthaepiperitae
folium, Chelidonii herba, Liquiritiae radix
 - ▶ contains 32.6 % of alcohol (V/V)
 - ▶ SUKL code: 0089031
OTC medicinal product
 - ▶ ATC: V11 (Phytopharmaceuticals and animal
products)
 - ▶ dosage: adults 20 drops 3 times daily,
children over 6y. 10 drops 3 times daily



Iberis amara
Brassicaceae

CHOLAGOGIC PREPARATIONS

Drops, tinctures, medicinal solutions

- ▶ **CHOLAGOL POR GTT SOL**
1x20ML
(IVAX/TEVA)
- ▶ alcoholic/oil solution of:
 - Curcumae longae rhizomatis pigmenta
 - Magnesii salicylas tetrahydricus
 - Menthae piperitae etheroleum
 - Eucalypti etheroleum
 - Frangula-emodinum
- ▶ contains 11.4 % of alcohol
- ▶ SUKL code: 0000699
- ▶ OTC medicinal product
- ▶ ATC: A05AX
- ▶ Indications: cholelithiasis, chronic cholecystitis, dyspeptic disorders in chronic hepatopathy
- ▶ dosage: 5-10 drops 3 times daily.
- ▶ CI: hypersensitivity to any component, acute inflammation of gall bladder or liver, severe liver damage, renal insufficiency
- ▶ Not suitable for pregnant and lactating women, children up to 12y. and for children up to 17y. in feverish diseases



CHOLAGOGIC PREPARATIONS

Drops, tinctures, medicinal solutions

▶ ROWACHOL

POR GTT SOL 1x10ML
(STEIGERWALD)

- ▶ oral drops – solution of essential oils in olive oil:
 - Pinenum α
 - Pinenum β
 - Camphenum
 - Cineolum
 - Menthonum
 - Levomentholum
 - Borneolum
- ▶ SUKL code: 0092087
OTC medicinal product
- ▶ ATC: V11
- ▶ available also in capsules

- ▶ ROWACHOL promotes bile release, relieves cramps in the area of the gall bladder and biliary tract, by reducing bile congestion it promotes intermediary metabolism in the liver. It reduces cholesterol production in the liver and decreases its concentration in bile.



CHOLAGOGIC PREPARATIONS

Drops, tinctures, medicinal solutions

▶ BILIOUS Herbal Drops (Grešík)

- ▶ 10% alcoholic extract of:
Menthae piperitae herba
Taraxaci herba
Cichorii herba
Rubi fruticosi folium
Calendulae flos
Curcumae rhizoma
Agrimoniae herba
Marrubii herba
Inulae radix



▶ BILIOUS Herbal Drops (Fytos)

- ▶ contains extracts of:
Taraxaci radix cum herba
Verbenae herba
Origani herba
Agrimoniae herba
Cichorii herba
Inulae radix



CHOLAGOGIC PREPARATIONS

Herbal teas

▶ THÉ SALVAT (Leros)

- ▶ 20x 1.0 g
- ▶ Matricariae flos
- ▶ Frangulae cortex
- ▶ Boldo folium
- ▶ Agrimoniae herba
- ▶ Marrubii herba
- ▶ Menthae piperitae herba
- ▶ Taraxaci radix cum herba
- ▶ SUKL code: 0056349
- ▶ ATC: V11
- ▶ do not boil (only infusion), drink warm. Always prepare fresh.



- ▶ suitable as a part of liver and gall bladder diet
- ▶ for digestive disorders, support bile production and flow, act against flatulence, abdominal distension; mild laxative effect
- ▶ for adults and children over 10y.
- ▶ CI: hypersensitivity to any component, acute inflammation of gall bladder, biliary obstruction, bilious and intestinal congestion, severe liver damage. Not suitable for pregnant and lactating women.

CHOLAGOGIC PREPARATIONS

Herbal teas

▶ BILIOUS Herbal Tea

(Megafyt Pharma)

▶ POR SPC 20X1.5GM

▶ Menthae piperitae herba	525 mg
Agrimoniae herba	375 mg
Marrubii herba	375 mg
Rhei radix	225 mg

in 1 tea bag (1.5 g)

▶ SUKL code: 0053725

▶ ATC: V11

- ▶ tea support bile release
- suitable for digestive disorders, loss of appetite, flatulence, feeling of fullness, abdominal distension
- ▶ for adults and children over 12y.



CHOLAGOGIC PREPARATIONS

Herbal teas

▶ LIVER–GALL BLADDER Herbal Tea (Megafyt Pharma)

- ▶ 20 x 1.5 g
- ▶ Menthae piperitae herba 30 %
Matricariae flos
Taraxaci radix cum herba 20 %
Foeniculi fructus 10 %
Cymbopogonis herba
(lemongrass)
Schisandrae fructus
Curcumae rhizoma 5 %
Agrimoniae herba



▶ LIVER–GALL BLADDER Herbal Tea (Leros)

- ▶ 20 x 1.5 g
- ▶ Taraxaci radix cum herba 30 %
Menthae piperitae herba 20 %
Matricariae flos 20 %
Foeniculi fructus 15 %
Agrimoniae herba 5 %
Curcumae rhizoma 5 %
Schisandrae fructus 5 %



CHOLAGOGIC PREPARATIONS

Herbal teas

▶ GALL BLADDER and PANCREAS Herbal Tea (Pavel Váňa)

- ▶ 40 x 1.6 g
- ▶ Agrimoniae herba
- ▶ Silybi mariani fructus
- ▶ Helichrysi herba
- ▶ Menthae piperitae herba
- ▶ Inulae radix



▶ LIVER-GALL BLADDER Herbal Tea (Teekanne)

- ▶ 10 x 2.0 g
- ▶ Taraxaci radix cum herba
- ▶ Menthae piperitae folium
- ▶ Matricariae flos
- ▶ Foeniculi fructus
- ▶ Curcumae rhizoma
- ▶ Millefolii herba/flos
- ▶ Silybi mariani fructus



DIGESTIVE PREPARATIONS

Oral solid forms

GASTROVAL cps.

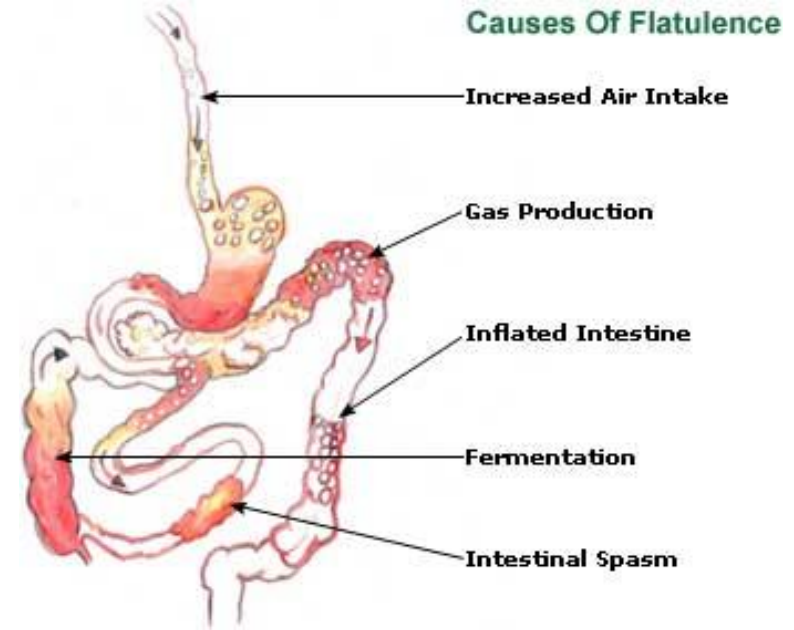
(Valentis)

- ▶ 1 capsule contains:
 - ▶ EnzyBlend 75 mg – enzymes of *Aspergillus fungus* that participate on cleavage of proteins, lipids, sugars...
 - ▶ Gentianae radix
Taraxaci radix
Silybi mariani fructus – dry extract
 - ▶ usage: 2 capsules per day during meal



CARMINATIVES

- ▶ = drugs that prevents formation of gas in the gastrointestinal tract or facilitates the expulsion of gas from intestines
- ▶ **flatulence** is usually accompanied by abdominal pain and distension
- ▶ Carminative herbal preparations are often mixtures of essential oils and herbal spices
- ▶ Carminative drugs are usually used also as spasmolytics



CARMINATIVES

Plant drugs used as carminative and spasmolytic agents, e.g.:

▶ **Apiaceae family**

- ▶ Anisi fructus, Foeniculi fructus, Carvi fructus, Coriandri fructus
Angelicae radix,...

▶ **Lamiaceae family**

- ▶ Menthae piperitae herba, Majoranae herba, Origani herba,
Rosmarini herba, Thymi herba,...

▶ **others**

- ▶ Matricariae flos – *Matricaria recutita*, Asteraceae,
German chamomille
- ▶ Chamomillae romanae flos – *Anthemis nobilis* (*Chamaemelum
nobile*), Asteraceae, Roman chamomille
- ▶ Caryophylli flos – *Syzygium aromaticum*, Myrtaceae, clove
- ▶ etc.

CARMINATIVE DRUGS



Pimpinella anisum
fruits



Foeniculum vulgare
fruits



Coriandrum sativum
fruits



Carum carvi
fruits



Majorana hortensis
herb



Origanum vulgare
herb



Anthemis nobilis
flower



Syzygium aromaticum
flower

CARMINATIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ **Matricariae flos**

Matricaria recutita

(syn. *Matricaria chamomilla*,
Chamomilla recutita),

Asteraceae

(German) chamomile

- ▶ Matricariae flos is mainly used as an antiphlogistic, spasmolytic, carminative, stomachic agent.
- ▶ also ulcer-protecting, bactericidal, fungicidal activity has been demonstrated
- ▶ the main uses internally are for gastrointestinal complaints (gastritis, enteritis, colitis, flatulence, cramp-like symptoms in the digestive tract) and menstrual problems



CARMINATIVE PREPARATIONS

Herbal teas

▶ CHILDREN Herbal Tea with chamomile (Leros)

▶ POR SPC 75GM

▶ Matricariae flos	18 g
Foeniculi fructus	16,50 g
Menthae piperitae herba	9 g
Althaeae radix	7,50 g
Rubi fruticosi folium	7,50 g
Plantaginis folium	5,25 g
Lupuli flos	4,50 g
Serpylli herba	3,75 g
Sambuci nigrae flos	1,50 g
Liquiritiae radix	1,50 g

▶ SUKL code: 0094842

▶ ATC: V11



CARMINATIVE PREPARATIONS

Herbal teas

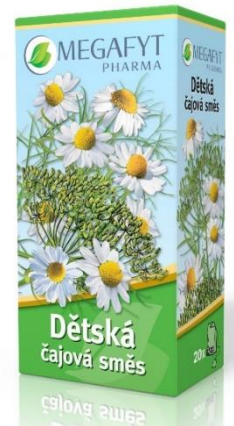
▶ CHILDREN Herbal Tea (Megafyt Pharma)

- ▶ 20 x1.5 g
- ▶ Matricariae flos 20 %
Menthae piperitae herba 15 %
Melissae herba
Verbenae herba
Tiliae flos
Foeniculi fructus 10 %
- ▶ suitable for children
over 6 months of age



▶ CHILDREN Herbal Tea (Megafyt Pharma)

- ▶ 20 x1.5 g
- ▶ Matricariae flos 375 mg
Menthae piperitae herba 375 mg
Althaeae radix 300 mg
Liquiritiae radix 300 mg
Foeniculi fructus 150 mg
in 1 tea bag (1.5 g)
- ▶ suitable for children
over 4 years



CARMINATIVE PREPARATIONS

Drops, tinctures, medicinal solutions

- ▶ **AQUA CARMINATIVA ČL 2009**
- ▶ Carvi etheroleum 0.1 g
- ▶ Citri etheroleum 0.1 g
- ▶ Citronellae etheroleum 0.1 g
- ▶ Coriandri etheroleum 0.1 g
- ▶ Foeniculi amari fructus etheroleum 0.1 g
- ▶ Menthae piperitae etheroleum 0.1 g
- ▶ Ethanolum 96% (V/V) 2.4 g
- ▶ Aqua purificata 997.0 g
- ▶ Talcum 5.0 g

C. 0,15 ml se zředí vodou R na 2 ml, okyseli se kyselinou dusičnou zředěnou RS a zakalený roztok se zfiltruje. K filtrátu se přidá 0,4 ml dusičnanu stříbrného RS, protřepe se a nechá se stát; vylučuje se bílá tvarohovitá sraženina, která je snadno rozpustná v 1,5 ml amoniaku 17,5 % RS (chloridy).

ZKOUŠKY NA ČISTOTU

Index lomu (2.2.6). 1,360 až 1,362.

Relativní hustota (2.2.5). 0,943 až 0,947.

Zbytek po vyžhání. Nejvýše 0,05 %; 10,00 g se odpaří na vodní lázni do sucha, potom se žihá do konstantní hmotnosti a po ochlazení v exsikátoru se zváží.

STANOVENÍ OBSAHU

1,000 g se smíchá se 30 ml vody R a 5 ml kyseliny sírové RS a titruje se dusičnanem stříbrným 0,1 mol/l VS za potenciometrické indikace bodu ekvivalence (2.2.20) (stříbrná a nasycená kalomelová elektroda).

1 ml dusičnanu stříbrného 0,1 mol/l VS odpovídá 5,35 mg sloučeniny NH₄Cl.

SKLADOVÁNÍ

Chráněn před světlem.

AQUA CARMINATIVA

2009

Větrová voda

DEFINICE

Je to vodný roztok vybraných silic s přísadou ethanolu.

PŘÍPRAVA

Carvi etheroleum (1817)	0,1 g
Citri etheroleum (0620)	0,1 g
Citronellae etheroleum (1609)	0,1 g
Coriandri etheroleum (1820)	0,1 g
Foeniculi amari fructus etheroleum (1826)	0,1 g
Menthae piperitae etheroleum (0405)	0,1 g
Ethanolum 96% (V/V) (1317)	2,4 g
Aqua purificata (0008)	997,0 g
Talcum (0438)	5,0 g

Silice se rozpustí v ethanolu 96% a tento roztok se přidává za stálého silného protřepávání do čisté vody a 15 min se protřepává. Asi 20 g tohoto roztoku se pečlivě rozetře s 5 g masktu a přidá se zpět k hlavnímu podílu tekutiny. Po in-

CARMINATIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ AQUA CARMINATIVA RUBRA ČL 2009

▶ Aurantii amari floris etheroleum	0.1 g
Carvi etheroleum	0.1 g
Caryophylli floris etheroleum	0.1 g
Cinnamomi zeylanici corticis etheroleum	0.1 g
Foeniculi amari fructus etheroleum	0.1 g
Myristicae etheroleum	0.1 g
Menthae piperitae etheroleum	0.1 g
Citronellae etheroleum	0.5 g
Coriandri etheroleum	0.5 g
Citri etheroleum	1.0 g
Ethanolum 96% (V/V)	6.2 g
Sirupus simplex	266.0 g
pigments	0.28 g
Aqua purificata	ad 1333.0 g
Talcum	7.0 g



CARMINATIVE PREPARATIONS

Drops, tinctures, medicinal solutions

▶ CHAMOMILLA Teva

SOL 1X25ML
(IVAX/TEVA)

- ▶ solution for oral or external use
- ▶ Matricariae extractum fluidum
= liquid extract of Matricariae flos
- ▶ contains up to 53 % alcohol
- ▶ SUKL code: 0162391
OTC product
- ▶ ATC: V11

- ▶ extracts of Matricaria flowers are mainly used for their **anti-inflammatory, antiseptic** and **spasmolytic** properties. They are stated to possess **carminative, mild sedative properties** and have been used for flatulent nervous dyspepsia, travel sickness, nasal catarrh, restlessness and specifically for gastrointestinal disturbance with associated nervous irritability in children



CARMINATIVE PREPARATIONS

Oral solid forms

▶ COLPERMIN

POR CPS ETD 20X187MG

(Tillotts Pharma AG)

- ▶ Menthae piperitae etheroleum 187 mg in 1 capsule
- ▶ SUKL code: 0169682
OTC medicinal product
- ▶ ATC: V11, A03AX
- ▶ dosage: 1 capsule 3 times daily
30-60 min before meal
- ▶ do not use in case of gastric hyperacidity



CARMINATIVE PREPARATIONS

For external use

▶ DOMIFLAN Baby (Aromatica)

- ▶ Anisi stellati etheroleum
Foeniculi etheroleum
Carvi fructus – extract
Matricariae flos – extract
Rosmarini folium – extract
- ▶ suitable for children
over 1 month of age



▶ HBF Children Emulgel Against Flatulence (Herbacos)

- ▶ Matricariae flos etheroleum
Menthae piperitae etheroleum
Anisi fructus etheroleum
Foeniculi fructus etheroleum

