Cursuri Romeo T. Cristina®

C.12/S.II

Substances acting on digestive system

http://horsestreatment.com/wp-content/uploads/crestockimages/107647-ms.jpg

- Eupeptics

- increase appetite and digestion by stimulating secretions and digestive motility that occurs by reflex or direct, with important consequences.

Hydrochloric acid

-clear liquid ,colorless, pungent ,avid of water and alcohol.

-in digestion of proteins, the 0.2% concentration is necessary to activate pepsinogen.

-above this concentration =. causes pyloric contraction

-used in hypo or anacidity, tympanism.

Pepsine

-officinal enzyme complex.

-containing the proteolytic enzymes from the fresh stomach mucosa of bovine or swine purified and diluted in lactose, at the indicated titer.

-amorphous powder, slightly yellowish ,characteristic odor (meat broth), sweet taste, water soluble.

-used in: secretory insufficiency associated with hydrochloric acid.

Acidopeps

-hydrochloride enzyme complex from glutamic acid and pepsin

-in the form of tablets of 0.5 g

-used in stomach secretory insufficiency.

Trypsin
-produced by the pancreas in the form of inactive precursor
-activated in the presence of enterokinase or trypsin.
-corrects pancreatic secretory insufficiency consecutive dyspepsia.

Pancreatin
-obtained from the pancreas of pigs, cattle, diluted with lactose.
-contains: amylase, lipase, trypsin.

Nutrizym
-tablets with bromelain (pineapple ferment)
- widens the eupeptic activity,
-is not inactivated by hydrochloric acid.

Mexaze
-contains: bromelain, pancreatin, clioquinol and phanquinone.
-product: eupeptic, intestinal antiseptic.

Papain
-very active proteolytic vegetal enzyme,
-used in dyspepsia.

Cotazym forte
-contains: trypsin, lipase, amylase, cellulase, dried and purified extract of bile.
-excellent in pancreatitis.

Festal
-include: lipase, amylase, protease pancreatic cellulases, dried ox bile.

- **Bitter digestives**

-drug with bitter principles, do not have general action, but can be used for a long time to improve appetite.

-Mechanism: reflex ,points the salivary glands.

Gentian root (Radix gentianae)

-is officinal drug, contains: gentiopicrine 1-3% which by prolonged storage becomes:

-gentiamarine and

-gentiogentiamin.

Dandelion Root (Radix taraxaci)

-contains: taraxacin, tannins, inulin.

-greatest activity: the root in autumn and the leaves in spring.

Centaury (Liverworts, Flores centaurs)
-are used the aerial parts during the flowering.
-has good antifebrile qualities.

Clover pond
-drug contains glycosides: meniantin that by hydrolysis is converted to: glucose and meniantol.

Thistle
-the most used is the extract fluid from the integer part.

- **Aromatic digestives**

This includes drugs containing etheric oils, always with bitter principles.

-eupeptic action: reflex (due to bitter principles) and direct way by stimulating the stomach lining (due to the etheric oils).

Wormwood (absinthium Arthemisia)

-Artemisia family plants ,are used the aerial parts

- containing absintine e and anabsintin ,that also includes azulene.

-the most used is the tincture.

Juniper (Juniperis)

-contains 0.8% volatile oils.

-in: infusions, bowls, electuaries.

Chamomile flowers (flos Chamomillae)
-containing: 0.20 to 0.50% etheric oil rich in azulene.
-bitter taste (coming from the antemic acid).
-as: antiseptic, soothing, antiinflammatory, antispasmotic, eupeptic, antifermentable.

Yarrow (Achillea millefolium)
-same guidelines as chamomile,
-additionally is hemostatic.

Anise
-contains: aniz oil, 80-90% anethole, terpenes, fatty acids.
-good qualities as an expectorant, carminative, antiparasitic.

Fennel (fennel)
-the drug is represented by dicariopse.

Cumin
-drug represented by Carum carvi plant dicariopses.
-same uses as anise.

Mint leaves
-1% volatile oil, of which 50% is represented by: menthol, tannin.
-digestive and carminative, intestinal antispasmodic.
Black mustard seeds
-include: irritating volatiles, having eupeptic qualities.
Orange peel
-pericarp , cleaned by albedo = flavedo, containing 1% etheric oil.
Lemon syrup
-contains 0.1% etheric oils, as eupeptic.
Garlic
-are used the bulbs containing 0.5-2% etheric oils.
-from this is obtained allicin antibiotic.
Tarbedolul
-good eupeptic, carminative mixture,
-used in the treatment of dyspepsia

- **Saline digestives**

- increase gastric secretion and appetite in ruminants.
- fluidization of secretions occurs through the anticataral action.
- acts directly on the glands and
- reflex, because of taste excites papillae.

- Sodium chloride
- officinal as physiological serum (9 ‰).
- is found also in 10-20% solutions.
- low doses: stimulate salivary secretions and g.i and fluidifies them .
- stimulation of peristalsis occurs by increased secretions acting on sensory terminations and promotes the absorption of food principles .

Sodium bicarbonate

-officinal. There are also infusion solutions 1-3%.

-Action: in the first phase neutralizes HCl in the stomach.

-After 15 min. stimulates glandular cells

HCl concentration increases, even more than before.

-occurs passage in the intestine where brakes, by reflex, the secretion of hydrochloric acid and after absorption ,via the blood, to stimulate the production of HCl.

-used also in gastroenteritis in moderate and sustainable stimulation of secretions and peristalsis.

Sodium sulfate (Glauber salt)

-officinal, colorless crystals, transparent, efflorescent, odorless, salty taste, slightly bitter.

-at temperatures above 34 ° C is dissolved in the water of crystallization,

- loses water in contact with air, becoming amorphous powder.

in small doses = digestive, while in higher doses = purgative.

Karlsbad salt (Sal caroliensis)

-contains: sodium sulfate 22 parts, sodium bicarbonate 18 parts, 9 parts sodium chloride, and one part potassium sulfate.

Action: The first activated are: potassium sulphate and sodium chloride which stimulate gastric and intestinal sensory terminations, thereby improving secreto-motor digestive functions

Substances that are designed to remove gastric acidity, used in ulcers : magnesium dioxide

-white powder, amorphous, odorless, gloomy taste, practically insoluble in water.

-is officinal, better even than sodium bicarbonate.

-in: tympanism but also in intoxications with heavy metal salts.

Various digestives

Alcohol

-stimulates digestion and secretions.

-concentrations of 5-10%, more than 20% decreases secretions (due to the amount of mucus produced).

High concentrations of 60-70%: irritants with caustic action.

Acria digestive

- irritating drug mixture used for gastric mucosa containing pepper and chilli

- **Ruminative substances**

Emetic

-antimony potassium tartrate.

-crystalline powder, colorless crystals, soluble in water.

1% causes mucosal irritation = activating prestomachs 60-90 min. from administration, action = hours.

Veratrine

-alkaloids complex from the seeds of Sabadila officinalis.

-used s.c., 1%, being good ruminant.

Ipecae root

-officinal containing :2% total alkaloids expressed in emetine.

-very good ruminant in atonia and overload.

Rumisan

-from: tincture of wormwood, juniper and veratrine extract in equal parts with HCl and water.

-is administered p.o. in large ruminants: 40ml / l water, x3 times / day and piglets in indigestion, 2 teaspoons diluted in water.

Ruminol

-injectable preparation containing 0.01 g sulfuric strychnine,sulfuric veratrine and hydrochloride pilocarpine.

-Venena storage .

It is contraindicated in heart failure, peritonitis, traumatic reticulum.

May be used:

-turpentine, tobacco leaf, wormwood, gentian root

Sicaden

-diluted with 50 ml water for large ruminants and 10 ml for small ruminants .

Pretympan

-diluted in water in a ratio of 1:10, 1:20.

Blo-troll

-in large and small RU diluted in water, is repeated at 6-12 h

-in: paresis of the rumen, when physiological flora can not produce propionic acid

Prodigestan

-contains:Na-propionate and Ca, antihistamines ,microelements

Sodium Propionate,

-compartments motility stimulant action in atonia,

-role in protein synthesis, increasing the alkaline reserve.

- **Emetic substances**

-produce vomiting to: carnivores and omnivores.
-in small doses = expectoration ,in moderate doses = ruminative.
-are central emetics: excites directly the vomiting center and
-reflex: stimulates sensory terminations of the vagus.
-Centrally acting

Apomorphine

-HCl-salt, crystalline, odorless, bitter water soluble.
-best central emetic in dogs, 1% in very small doses.

Veratrine

-best effect in pigs
-not recommended to carnassials = vomit = dose intoxications

Sulfathiazole

-20% concentration, administered i.v. in dogs, produces vomiting.

Pilocarpine

-in dogs and pigs as safe emetic, s.c. 1% solution.

With reflex action

Stirigoaie Rhizome

emetic due to stomach lining irritation, supplemented by a reflex response after excitation of the vomiting center.

Ipecae root

Disadvantage: induces long periods of nausea, accompanied by salivary and bronchial hypersecretion, replaced by apomorphine

Emetic, copper sulfate, zinc sulfate

1-2% solutions are used

- **Antiemetic substances**

When incoercible vomiting needs to be combated.
May be : central and peripheral type.

Central emetics

Torecan

similar to Emetiral, effective in : central type and in the peripheral type.

Mincortid (Cortiron, ADC)

- Mineralocorticoid antiemetic, i.m.for: pigs and dogs.

Clordelazin

-central antiemetic activity similar to Combelenul.

Perphenazine (Trilafon)

central phenothiazinic antiemetic,
may give reactions (hypotension, agranulocytosis).

Scopolan

-effective parasiompaticolitic

-used in motion sickness and vertigo.

-depresses vestibular centers.

Meglozine

- piperazine antihistaminic and durable antiemetic.

Trimethobenzamide (Tigan)

-benzamidine derivative, long acting,

-not effective in postoperative vomiting.

Reglan (Prinperam, Metoclopramide)

-antiemetic: in postoperative vomiting

-may cause extrapyramidal reactions.

Dimenhydrinate

-salt of diphenhydramine associated with theophylline.

-antiemetic with delayed effects (4-6 h) determining also sedation

-recommended in motion sickness.

Peripheral action

Gaseous Lemonade (potion Riviere)
Officinal ,consists of two solutions:
a sodium bicarbonate ,simple syrup, water,
b citric acid, lemon syrup and water,prepared ex tempore.

Anticolerine tincture
- Officinal ,contains: tincture of opium, tincture of pieplant, cinam ethereal oil, peppermint etheric oil, hydrochloric acid, alcohol.

It is used in dogs.

local anesthetics
as to prevent vomiting are in 1% solution: xiline and anestezina,
less procaine.

- **Purgative substances**

After intensity of action these can be:

- laxatives,
- lenitives,
- cathartic,
- drastic.

Are recommended in:

- constipation,
- foreign matter removal and
- parasites.

Not recommended:

- severe gastroenteritis,
- advanced gestation
- peritonitis.

Action Mode

-mechanical fluidness and increasing the intestinal content

-will relax the intestinal wall,

-reflex is increasing peristalsis.

-salts in hypertonic sol. will hardly absorb = plenitude

-movement of Ca ions = increased muscle tone.

Purgation

can be obtained also with the contribution of principles that irritate the bowel, increase peristalsis,

-when using parasimpathicomimetic stimulating the digestive functional elements innervated by pneumogastric.

A part of purgative at certain doses, may be:

choleretic or cholagogue.

Oily purgatives

Castor oil (Ricinus Oleum communis)

- by cold pressing and water vapors treatment of seeds,
- viscous, colorless, yellow, characteristic smell, taste, unpleasant.
- purgative to: horse and omnivores ,at herbivores has a late effect.

Sunflower oil

used as a laxative, but large quantities (1-2 kg).

Croton oil

- Highly toxic, as purgative with a few drops of vegetal oil in small animals the dose is drops.

Glycerin
-purgative , in enemas with glycerinated water and suppositories,,
-due to local irritation reflexively favors purgation.

Paraffin oil (Vaseline)
mechanical action,
does not transform and absorbe.
very good in case of fecaloma.

- **Saline purgatives**

Sodium sulfate
- in high doses is purgative.

Magnesium sulfate
-one of the most active purgatives,
-half doses are cholagogue.
-with sodium sulfate is contraindicated in pregnant and lactating peak.

Calomel (mercurous chloride)
-white microcrystalline powder, very fine, heavy, adherent, odorless, tasteless, insoluble in water.
-administered p.o. passes unchanged through the stomach into the intestine.
- due to secretions a small part turns slowly into sublimate, mercury, mercurial proteins that irritate mucosa producing purgative effect.

- **Various purgatives**

Agar

-prepared from marine algae of the genus Gelidium and Agarum.

-transparent masses ,yellowish-white ,containing insoluble superior polymers of galactose, they absorb more water,

-occurs the increaseof intestinal content,

-produces reflex hiperperistaltis and purgation.

Carrageen

-is obtained from algae, identical to agar, acting the same.

Methyl cellulose (MC)

-cellulose's polimetileter.

-fibrous powder, white to pale yellow.

-with water forms a colloidal dispersion, opalescent.

-has volume laxative activity.

Sodium carboxymethyl cellulose

sodium salt granules or fibrous, white, mucilaginous, low salty taste, odorless, hygroscopic.

with water = clear or opalescent colloidal solution.

is officinal.

Mana

air-dried juice obtained by incising the ash bark.

yellow pieces form, sweet and sour.

good laxative for small animals.

Are also used as laxative:

-sugar

-mucilaginous seeds

-oleaginous

- **Large intestine purgatives**

- the major anthraquinone derivatives found in plants, coupled with antraglycosides.
- are absorbed in the small intestine
- in organism the major part decomposes,
- excreted as glucuronide and sulfate conjugates,
- 3% pass into the blood, hence in large intestine = stimulates it.

Aloe

- by evaporating and drying the juice of Aloe Verra leaf
- containing 5% aloin.
- purgative effect occurs after 18-24 h and lasts two days.
- reflex, purgative doses stimulate the uterus, causing abortion.
- milk becomes bitter.

Buckthorn bark

-the cover is held for 1 year after harvesting or for 1h at 100 °C.

-hydroxymethyl-anthraquinone has 2.5%.

-contains:antraglycosides,emodine,crisofanic ac.,tannins.

Neprun beans (verigarium)

- Mature and dried fruits. It is used as a syrup or decoction in small animals: 10g.

The root and rhizome of rhubarb

- are used the underground parts of Rheea plant,

-hydroxymethyl-anthraquinone has 2.5%.

-low doses = digestive ,medium = astringent, large = purgative

Sena leaves

-comprising: anthraquinone glycosides, senozid A and B, oxymethyl anthraquinones.

Dioxiantachin (istizin)

-orange-yellow powder, odorless, tasteless, sparingly soluble.

-slow purgative effect,is less irritating than aloe.

-daily, several times: mixtures, bowls, electuarii

-for: horse, dog, pig.

With activity on the the large intestine:

- phenolphthalein 1 -2g pigs;
- podophyllin in large animals and dogs;
- Jalapa resin contains convolvulin and jalapine;
- Stamoneea resin contains plenty of jalapine
- Simpaticopurifiers

Cursuri Prof. Dr. Romeo T. Cristina©

- **Antidiarrheal substances (Stipic)**

-*opposite effect to purgatives, reducing the increased sensitivity of the intestinal mucosa and its secretions,*

-*decreases peristalsis, reduce hyperemia and inflammation by local astringent effect prevents normal fermentation and putrefaction of enteric contents.*

Smoothing and antispasmodic substances:

-*opium (the strongest), papaverine, extr. and Belladonna tinct.*

-*Protective, mucilaginous and adsorbent:*

-*Mucilage from:*

-*linum, althea, acacia, grains, carrot mash, glair suspension,*

-*administered with plenty of liquids = avoid the formation of enterolite*

Slightly soluble in water astringents :

Representation: alum, ferrous sulfate, generally iritants poorly soluble in water : calcium carbonate, bismuth family substances; organic: tannins.

Intestinal antiseptics

-counter abnormal fermentative processes in the digestive tract through their etiotrope action.

Representatives: lactic acid, salicylic acid and nitrofurane, furazolidone, saprosan, phthalyl-sulfathiazole, chloramphenicol, tetracycline, neomycin, streptomycin, phanquinone, clioquinol, broxichinolonă.

Carminative substances

-remove gas from the digestive tract

Representatives: methane, carbon dioxide, hydrogen, hydrogen sulfide, volatile fatty acids).

Removes gases from the intestine

These include:

strong antispasmodics :

atropine, papaverine, Algocalmin parenterally;

Aromatic drugs:

cumin, fennel, anise, chamomile, mint, garlic;

antifermentescible, adsorbent and absorbent:

lime water, formalin, diluted alcohol, ammonia diluted ,activated charcoal;

parasympathomimetics if excess gas occurred due to other mechanisms than spasms of smooth g.i mm.

Substances acting on the exchange of nutrients

Stimulate anabolism leading to the growth and development of tissues and even the regeneration of destroyed tissues or favors catabolic processes, increasing energy processes (indirect tissue regeneration).

substances taking part directly in tissue structure = Plastics (plasso = build)

These only stimulate the exchange of nutrients = roburant (robur = power).

Plastic substances: proteins, lipids, carbohydrates, water, salts, these have a role in the coordination of basic physiological processes.

It can also include biocatalysts in food (vitamins), so that disrupting the relations between plastic materials and biocatalysts determines modification of the exchange of nutrients even when the ratio is high in calories.

- **Plastic substances and roburants**

Iron and its derivatives

This group has both plastic role,

helps in the formation of hemoglobin as well as roburant, favoring erythropoiesis.

-iron absorption ,possible only if the digestive system is working well.

-in the stomach will form ferrous chloride which will dissociate (partially) and then will be absorbed, including in the small intestine.

A part of the resulting ferrous ions will combine with apoferitin resulting ferritin.

iron remained unbonded, including undissociated chloride will remove with feces.

from ferritin iron will gradually release and will go into circulation.

On general route are administered pharmaceutical products based on trivalent iron, recommended in anemia, drug necessary to ensure production of hemoglobin, stimulates erythropoiesis and increases the rate of oxido-reductive processes from tissues.

As a contraindication is the association of preparations based on iron with tannins and sulfur.

Inorganic derivatives of iron = more absorbable and active, yet more irritating to the gastrointestinal mucosa compared with organic compounds (which, although less efficient, are much less toxic).

The soluble iron derivatives

Reduced iron

-officinal powder obtained by hydrogenation of iron oxide.

-black - gray powder, matte, insoluble in water, solvents soluble in sulfuric acid releasing hydrogen.

-in the stomach will change to ferrous chloride.

Ferrous sulphate

-substance with general action by enteral route

-in 0.5-1% solutions having astringent role.

Iron lactate

-greenish-yellow crystalline powder, characteristic odor, sweet, soluble in cold water. Contains up to 20% iron.

Ferrous chloride

-less stable, and therefore it is preferred as tablets.

-syrup can be prepared which is officinal, shall be stored in the dark.

Iron saccharate and iron carbonate saccharate

-Iron solutions put up for i.v injections

Dextriferon (Astrafer)

-in the form of ampoules of 2 ml to 0.1 g iron.

-i.m. provides necessary iron for anemia deficiency.

Hausmann Iron

-vials, administered i.m. and having the same applications.

Ferrous fumarate

-red granulated powder, sparingly soluble in water. It contains 33% iron.

-is well absorbed after oral administration

-good results in anemia piglets.

Farmafer
same indications as ferrous fumarate.
Ferron
suspension flavourant, per se using as precedents.
Glubifer
combination with ferrous glutamate, which contains 20 mg of iron.
is administered after hemorrhages and iron deficiency anemia.
Myofer
iron and dextran aqueous solution of trivalent iron containing 0.1 g / ml.
good results in iron deficiency anemia of piglets,
i.m. in the first days after calving, in doses of 100-150mg/pig.
Bioferan
Myoferul like: 0.2-0.5 ml am and 1-2 ml in piglets.
Ferrodex
- Bottles 10%, 50ml, preventive iron deficiency anemia.

Calcium and its derivatives

99% of the calcium in the body is in bones as tricalcium phosphate mainly to calcium carbonate, and the rest is ionic form in the blood, about 10 mg%.

In general, serum calcium may present large oscillations.

Calcium

is well absorbed in the intestine, mainly depending on the value of the ratio P / Ca that has to be 1:2.

This report provides calcium fixation in bones, especially if it is almost 2.

an important role has vitamin D that positively intervenes when the report is unfavorable.

in M. V. are used inorganic and organic salts of calcium as p.o as well as parenteral.

Calcium chloride

hemostatic and diuretic role.

in: exhaustion, rickets, osteomalacia, abortion, paralysis p.partum

Calcium-magnesium

20ml vials 10. Injectable aqueous solutions containing 10g of calcium chloride and magnesium chloride 2.5 g

good general tonic, recommended in tetany, spasmophilia, paralysis postpartum.

Clorocalcin

calcium chloride solution containing 0.18 g / ml.

very good recalcification.

Calcium gluconate

- Less intense activity, but sustainable.

Granulated calcium

- Contains calcium gluconate 50g

Calcium borogluconate

contains: calcium gluconate, boric acid, magnesium chloride, EDTA, sodium metasulfite, sodium hydroxide, water ad 100.

in the form of ampoules or vials 10-100 ml.

shall be administered once as a general tonic in vitulera fever, puerperal paralysis.

s.c. in pigs and sheep and i.v slow in large animals.

Calcium lactate

granules or powder, odorless, bitter, 13% calcium.

is well absorbed in the digestive tract, and in contrast to other water-soluble salts, is intestinal antiseptic.

Calcium 200 (effervescent)

- containing gluconolactate of calcium (1.8 g Ca 0.2 g pure).

Tribasic calcium phosphate

white powder, odorless, tasteless, almost insoluble in water. in the intestine acts as stipic.

Remineron

- Contains calcium phosphate tribasic and calcium gluconate, in equal parts, each 10g. is very good for osteoporosis and fractures.

Monohydrogen phosphate of calcium (dibasic)

- similar to tribasic.

Phosphorus and its derivatives

Phosphorus

-in the form of mineral salts (tricalcium phosphate).

-Blood phosphoric ion has a very low titer.

-along with it has a very important role in osteogenesis.

-in rickets, not serum calcium is low but fosferemia, vitamin D intervening to regain the balance of phosphorus-calcium,essentially by increasing phosphoremy.

-P excess in blood will block Ca absorption in the intestine.

-Intoxication causes fat degeneration of the liver, heart, brain, depression, bleeding.

Phosphoric acid

clear, colorless, odorless, sour odor.

mixed in any proportion with water and alcohol can be found in a concentration of 9-10% or 50%.

officinal, stored in Separanda.

as activator of ossification, digestive, urinary acidifier.

Sodium hydrogen phosphate (disodium phosphate)

efflorescent crystals, colorless, mild salty taste, refreshing.

Fosfotonic

2% aqueous solution, 10 -20 ml vials.

stimulating the metabolism, hematopoiesis, ossification

fractures, osteopaths, ante and postpartum paralysis, tetany.

Tonophosphate

- s.c., i.m., i.v in small and medium sized animals up to 0.2 g

Sodium glicerophosphate

- White, efflorescent, odorless, salty, easily soluble.

Glicerophosphate of calcium

-mixture of calcium salts.

-crystalline, amorphous, odorless, bitter, dried at 150ºC decomposes at 170 ºC .

Cedecalcin

-containing glycerophosphoric calcium, calcium gluconate, 4000 IU ergocalciferol, ascorbic acid 0.1 g , good in fractures and osteoporosis.

Hexaphosphate (Phytin)

mixture of calcium and magnesium salts.

contains 18% organic phosphorus. Administered p.o. at a.m.

Lecithin

phosphatide component of various animal tissues [egg yolk (vitellus), liver, nervous tissue)] less vegetable (soy).

contains 3.5% phosphorus.

soluble waxy mass, yellow-brown, or granules.

energy source in exhaustion and convalescence.

Ascolecithin

vegetal lecithin containing ascorbic acid.

energy source, through the contribution of phospholipids and vitamin C.

Other roburant and plastic sustances

Sugar

source of nutrition and energy in efforts, dystocia, acetonaemia.

is administered up to 300 g in large animals ,a week.

Is recommended the inverted sugar, 10-20 ml vials, 33 or 40%.

is an equimolar mixture of glucose and fructose.

Glucose

hygroscopic white powder, odorless, soluble in water, sweet.

Nutritive and energy qualities (1g contains over 4 calories).

energy accumulates in macroergic components (ATP).

Amylum
besides mucilaginous qualities is also plastic.
is used mainly in young, easily digested,
decomposes into dextrin, maltose, glucose.
fructose
monosaccharide easily assimilated.
participates in glucose metabolism, even in the absence of insulin, transformed into glycogen.
recommended to restore energy reserves.
ethylic alcohol
Provides good energy, but the energy released is not stored in ATP.
Robur only, not plastic, however,
in moderate doses may provide enough energy in exhaustion.

Arsenic anhydride
amorphous powder, crystalline, odorless
Venena storage ,is also chemotherapic.

Fowler Liquor (sodium metarsenite)
containing 1% anhydride in the form of metarsenit potassium.
clear, colorless liquid, smelling as camphor,
kept at Separanda,
can be used on long-term therapy.

Sodium arsenate
colorless crystals, odorless, efflorescent.

Arenal (Arifen)
crystalline white powder,shall be kept on Separanda.

Sodium cacodylate

white powder, odorless, slightly salty, slightly soluble in water.

p.o and s.c, up to 2 g in large animals , 10-20% solution.

Sulfur

In very small amounts may lead to the exchange of nutrients and protein synthesis after conversion into sulphide.

Iodine and its derivatives

in acid medium iodine releases from iodides (reduction process)

in a basic medium the process is reversed.

influences nutrient exchange in the body.

Sodium chloride

- because it is found in small proportions in feed, is supplemented at ruminants, especially when they are sweaty and have intense diuresis.

Potassium lactate

10-20 ml ampoules, which contain potassium ions and lactate ions.

recommended in potassium deficiency.

Ionoserul

mixture of sodium citrate, magnesium chloride, calcium chloride, potassium chloride, glucose, caffeine, sodium benzoate and distilled water ad 1000.

good hydration, especially in enteric processes when solid electrolytes are lost.

Sodium selenite

vials 10ml 1 ‰.

miodystrophy in calves and lambs, piglets hepatosis ,in nonspecific lung disease, growth disorders in youth retention in cows, miodystrophy nutritional treatment.

is associated with Vitamin E s.c, repeat at 2-10 weeks.

In pregnant cows, 3 weeks before calving: 50ml 1 ‰ associated with vitamin E 1.000-3.000mg.

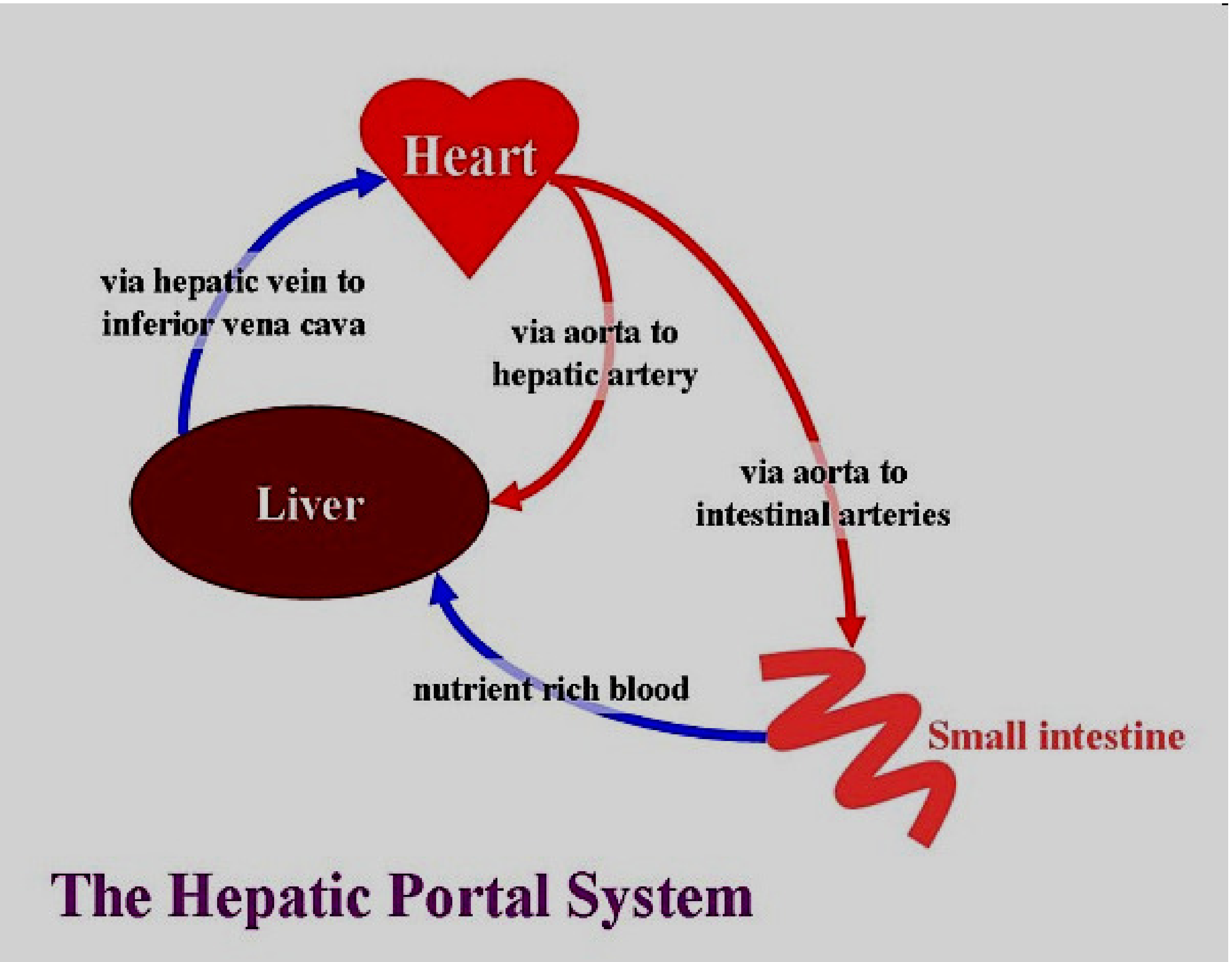
In calves miodystrophy is administered up to 10ml + 1.000mg vitamin E and lambs 5ml 1 ‰.

Ursoselevit

100ml bottles solution for injection that contains at 1ml 5mg of sodium selenite, 30mg alpha-tocopherol acetate and distilled water.

good muscular antidystrophyc ,dosage being 1ml/10kg c

Thanks for your attention!



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