



Emetics
EXPECTORANTS
ANTI-DOTS
HAEMETINICS

PHARMACEUTICAL CHEMISTRY 1
UNIT II (SECTION G, H & I)

Emetics

- These are the drugs which give rise to forced emesis by which
- the contents of the stomach get expelled through the oral cavity.
- They are very important in cases of Poisoning.

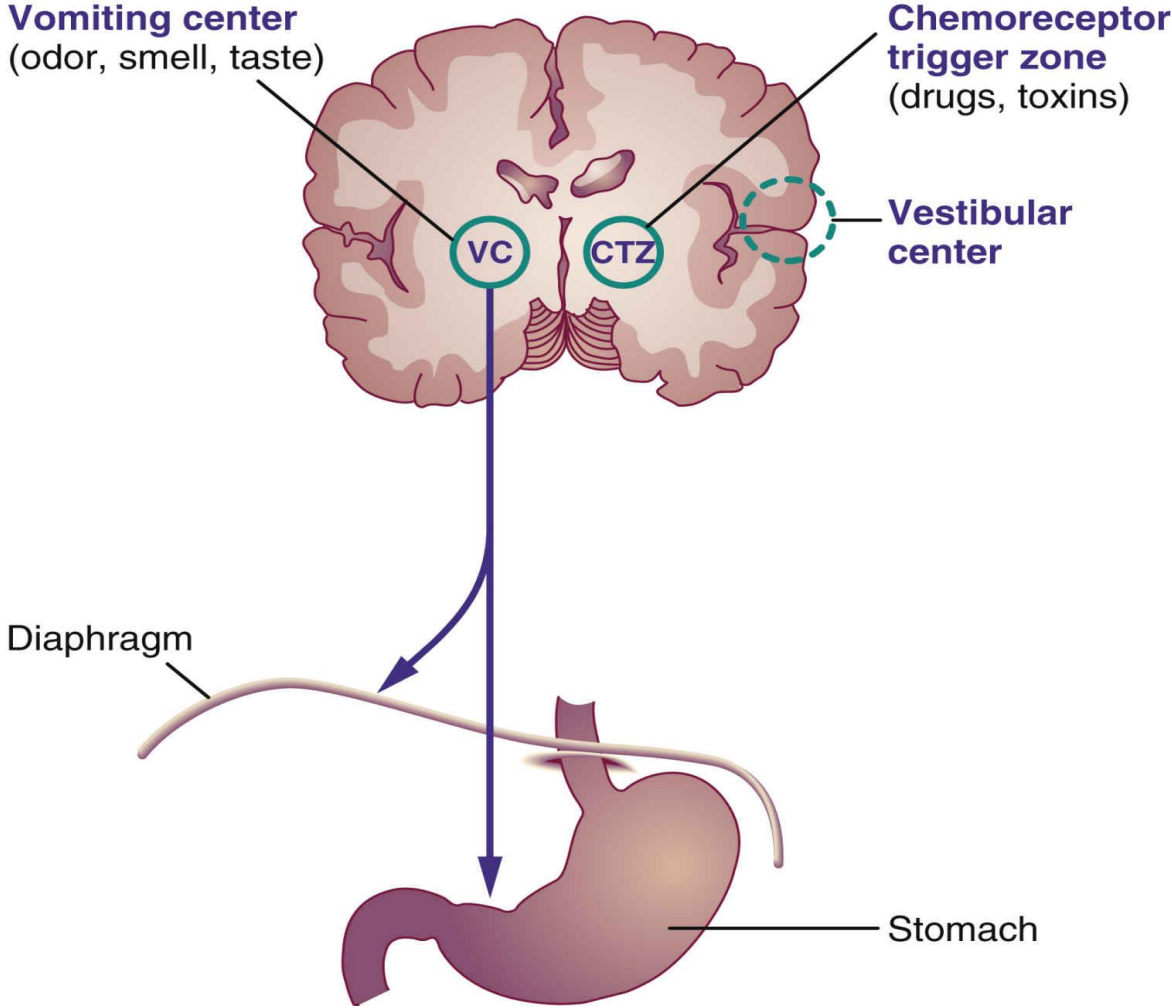


Mechanism of action

The emetics act by 2 types:

- Locally acting emetics: by local irritation of gastric mucosa. e.g.
Ammonium bicarbonate, Ipecacuanha
- Centrally acting emetics: directly on the Chemoreceptor Trigger Zone (CTZ) in the floor of IV th ventricle in medulla e.g.
Apomorphine & Morphine

Cerebral Centers Affecting Vomiting



Uses of Emetics

- Vomiting is primarily considered to be a respiratory function, its ultimate result would cause the evacuation of the stomach thus emetics produces a reflux action by which TOXIC substances gets expelled in case of poisoning.
- Emetics are sometimes added to cough preparations in low doses to stimulate flow of respiratory tract secretions.

Natural Emetics



- Salt water • Warm water – mild emetic • 2 spoonful of common salt in 1 pint of warm water
- Mustard seed • 1 table spoonful ground mustard seeds in half-pint of warm water • Strong coffee is one of the best domestic stimulants, especially after a narcotic poison



When Emetics should not use???

- In Corrosive poisoning – acid and alkali (why?)
- In CNS stimulant poisoning
- To unconscious patients



Expectorants

- Cough , a productive reflex help to expel irritant matter from the respiratory tract
- It may be Productive Or Non Productive



Expectorants

- Expectorants are Drugs that help in removing sputum from the respiratory tract either by:- increasing the fluidity (or reducing the viscosity) of sputum

OR

- increasing the volume of fluids that have to be expelled from the respiratory tract by coughing



Classification of Expectorants

According to their mechanism of action...

- 1) Sedative expectorant
- 2) Stimulant expectorant

Sedative Expectorants

- These are stomach irritant expectorants which are able to produce their effect through stimulation of gastric reflexes. e.g. Bitter drugs – Ipecac, Senega, Indian Squill

- Inorganic Compounds – Antimony potassium tartrate, Ammonium chloride, Sodium citrate, Potassium iodide

Stimulant Expectorants

- These are the expectorants which bring about a stimulation of the secretory cells of the respiratory tract directly or indirectly. Since these drugs stimulate secretion, more fluid in respiratory tract and sputum is diluted.
- e.g. Eucalyptus, Lemon, Anise



ANTI-DOTES

Anti-Dotes

- **Poison, any substance that when introduced into or absorbed by a living organism causes illness or death.**
- **Anti-Dotes is an agent which counteracts poisons**

Classification of Anti-Dotes

Physiological:- Producing opposite effects to that of the poison
e.g, Sodium nitrite in Cyanide poisoning

Mechanical:- Prevent Absorption of Poison e.g, Activated Charcoal

Chemical:- Change chemical nature of poison. e.g, Sodium thiosulphate in cyanide poisoning

Inorganic Anti-Dotes

- In Cyanide Poisoning **Sodium nitrite & Sodium thiosulphate**
- In Lead Poisoning *Sodium Calcium Edetate & Dimercapol*

ASTRINGENTS

Astringents

- Astringents is a substance that cause the contraction or shrinkage of tissue that dry up secretions
- Astringent act as protein precipitant
- Astringents is applied to skin, mucous membrane and does not destruct the tissue
- Zinc oxide and calamine are astringents used in lotions, powders and ointments

Use of Astringents

- If you suffer from oily skin, **astringent** can help improve your skin's appearance by minimizing pores and drying up oily skin
- **Astringent** is usually applied after cleansing, but before moisturizing
- The alcohol-based product can also help remove bacteria and leftover traces of cleanser or makeup
- An **astringent** is also **used** to improve blood circulation and tighten the skin besides ... One such example is the Stolin Gum **astringent** aimed at total **oral** hygiene

Inorganic Astringents

- ✓ Salt of Iron, Zinc, Manganese, Iron and Bismuth.
- ✓ Aluminium Sulphate
- ✓ Alum
- ✓ Zinc Chloride
- ✓ Zinc Sulphate
- ✓ Zirconium Oxide
- ✓ Zirconium Silicate

Haematinics

➤ **Haematinic** - a medicine that increases the hemoglobin content of the blood

OR

➤ A hematinic is a nutrient required for the formation of blood cells in the process of hematopoiesis

➤ The main hematinics are iron, B12, and folate



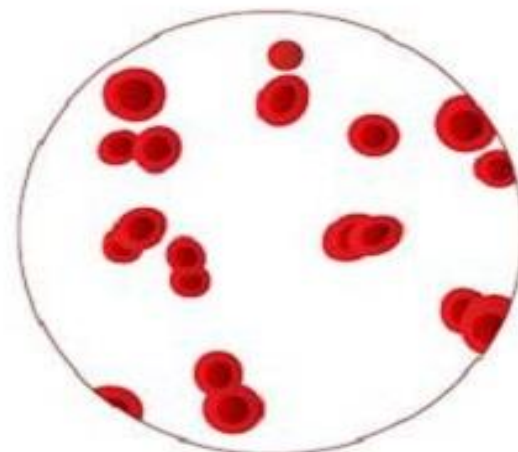
Anaemia.....

Anemia is a medical condition in which the red blood cell count or hemoglobin is less than normal.

Anemia is caused by either a decrease in production of red blood cells or hemoglobin, or an increase in loss (usually due to bleeding) or destruction of red blood cells.



Normal



Anemia

IRON



- ✓ Total Iron in human body is 2.5-5 gm.
- ✓ Iron tablets can help restore iron levels in your body. If possible, you should take iron tablets on an empty stomach, which helps the body absorb them better.
- ✓ Iron supplements may cause constipation or black stools.

Dietary Source:-

- Red meat, pork and poultry
- Seafood, Beans
- Dark green leafy vegetables, Dried fruit, breads and pastas
- Peas, egg yolk, Milk Apple



TOP 10 FOODS RICH IN IRON

IRON RICH FOOD:



CHICKEN



LIVER



BROCCOLI



DRIED BEANS/
GREEN PEAS



PORK



BEEF



POTATOES
WITH SKIN



SPINACH



EGG YOLK



IRON
FORTIFIED
CEREALS



RAISINS



SHRIMP



CLAMS



DRIED
APRICOT



WATERMELON

Distribution of Iron in Body

Haemoglobin :	66 %
Iron stored as Ferritin and Haemosiderin :	25 %
Myoglobin in Muscles :	3 %
Parenchymal iron :	6 %

Inorganic Haematinics

- Ferrous Sulphate
- Ferrous Gluconate

How Effective is Ferrous Sulfate?

Ferrous sulfate mineral is utilized effectively in treatment of anemia caused by lack of enough iron in the body.

For More Information:
Visit: www.epainassist.com



Anemia

