CRUDE DRUGS

The product from plant (or) animal origin forming a raw form. these crude drugs ~~or~~ are grouped as

1. Organised
2. unorganised

Organised :- Represent part of plant. They are made up of cell & have a definity plant structure

Ex

Leave – Digitalis, Senna, Datura
Fruit – Fennel, coriander
Seed – Nuxvomica, Isbagghula
Bark – cinchona, cinnamon
Root – Ipeacac, Rauwolfia
flowerbud – clove

unorganised :- These are the drugs which do not contain any part of the plant but contain solid & liquid material obtained from natural sources by variety of extraction products eg sotid,

Gums :- Tragacanth, Acacia

Resins :- colophony, Jalap

Dried Juices — Aloe, Kino

Fats — Lard

Waxes — Beeswax, spermaceti

In pharmacognosy the crude drugs r classified as follows [ATM, CTC]

1) Alphabetic classⁿ
2) Taxonomical "
3) morphological "
4) chemical "
5) Therapeutical (or) pharmacological classⁿ
6) chemotaxonomical " ~~&~~ seto Taxonomical classⁿ

Alphabetical classⁿ

The crude drugs are arranged according to the alphabetical order of their latin & english names. & some of the pharmacopia & reference books classify crude drugs according to this system.

1) Alphabetical classⁿ is found in

1) Indian pharmacopoeia
2) British pharmacopoeia
3) British pharmaceutical codex
4) British Herbal pharmacopoeia
5) British Herbal compendium
6) European pharmacopoeia
7) Extra pharmacopoeia
8) United States pharmacopoeia, National formula

ex of drugs :- Acacia, Benzoin, Ipecac, Kurchi morphine, opium, Senna, Rauwolfia, Vinca

2) Taxonomical (Biological classⁿ)

phylum : spermatophyta
Division :- Angiospermae
class :- Dicotyledons
odours :- Rosale
Family :- Leguminosae
sub Family :- papilionaceae
Genus :- Glycyrrhiza glabra (myroxylon balsamum)

The drugs are classified according to plants, animals from which they are obtained in phyla, order, families

Genera, species, subspecies

The taxonomical classⁿ of few crude drugs derived from dicot plant is as follows.

③ morphological classⁿ

Seeds :- Nuxvomita, strophanthus, Isabgol

Leaves :- Senna, Digitalis, vasaka, Eucalyptus

Bark :- cinchona, Kurchi, cinnamon

woods :- Quassia, Sandal, wood

Roots :- Rauwolfia, Aconite, Jalap

Rhizomes :- Turmeric, Ginger, podophyllum

Flowers :- clove, Artemisia & Saffron.

Fruits :- coriander, colocynth, fennel.

entire drugs :- Ephedra, ergot & Belladonna

② unorganised drugs

Dried drugs :- opium, papain.

Resin combinations :- Balsam & Tolu

Benzoin.

Dried Juices :- Aloe, Redgum

Gums :- Acacia, Tragacanth, Guergum.

The crude drugs are grped according to the parts of the plant / animal represented into organised & unorganised.

The organised drugs are divided into parts of the plants like leaves, flowers, fruits, seeds, barks, roots.

(f) chemical classn

Alkaloids :- Vinca, cinchona, Belladona, opium Ipecac, Tea, coffee, vasaka

Glycosides - Aloe, senna, Digitalis, mustard, Rhubarb, Brahmi, Ginsong.

Tannins :- Amla, myrobalan, black catechu, pale catechu, pterocarpus

Resins + Resin combinations -
Asafoetida, myrrh, colophony Balsam of Tolu
Balsam of peru, podophyllum, Jalap.

Carbohydrates + related products :- Honey
Tragacanth, sterculia gum, Guargum, Starch
Isapghula

Lipids :- (Fixed oil, fats waxes)
Arachis oil, chaulmoogra oil, shark liver oil
Hydrous woolfat, spermaceti Lard, Suet.

Volatile oil :- Cassia, cinnamon, Dill
Caraway, clove, Tulsi, Ajowan

Black pepper, Fennel

proteins:- Casein, Gelatin, Yeast, collagen

enzymes:- Diastase, pepsin, pancreatin
streptokinase.

Hormones — oxytocin, Insulin.

The crude drugs r classified on the basis of the chemical nature of their constituents.

The pharmacological action & therapeutic uses of the crude drugs r also due to these chemical constituents.

⑤ chemotaxonomical clasn:-

It establishes a relationship b/w positions of plants & attempts to utilize chemical facts for more understanding of biological evaln & relationship

→ These chemotaxonomical studies in details of 2° metabolites pharmaceutically significance chemical + Eg:- Alkaloids, tannins, glycosides

→ tannins, glycosides, tannins

⑥ Therapeutic ~~action~~ classy / (Pharm class)

In this class the drugs are classified according to the pharmacological action of their constituent / their therapeutic uses.

Eg cascara, senna, castor oil (CSC)

These are griped together as purgatives

Laxatives.

cinchona, gentian, nux vomica griped together as bitter ↑es appetite before meals.

The drugs shows different in mechanism of action & the same pharmacological action r griped together.

Eg Bulk purgative, irritant purgative, emollient purgative

Some of drugs r classified under 2 pharmacological heading, they exhibit 2 different actions

Eg cinchona → potent action, antimalarial
better carminatives

Some of the examples of crude drugs under pharmacological class are as follows

DRUGS ACTING ON RESPIRATORY SYSTEM,

expectorants — Liquorice, Balsam of Tolu, Ipecac

Antitussives — opium (codeine)

Bronchodilators — Tea, Ephedra

DRUGS ACTING ON GASTRO-INTESTINAL TRACT

Bitter — Nux vomica, cinchona, picrorrhiza

Laxatives — Isapghula, Aguel

purgatives — castor oil, cascara, senna, Aloe

carminatives — coriander, Dill, Fennel, Asafoetida

Antiamoebic — Ipecac, Kurchi

emetics — Ipecac

DRUGS ACTING ON CARDIOVASCULAR SYSTEM

cardiotonic — Digitalis, Strophanthus, Squill

cardiac depressant — Veratrum, cinchona

Antihypertensive — Rauwolfia

DRUGS ACTING ON CENTRAL NERVOUS SYSTEM

CNS stimulants — coffee, Tea

CNS depressants — Hyoscyamus, Belladonna, opium

central analgesics — opium (morphine)

Hallucinogen — cannabis, coca (cocaine)

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DRUGS ACTING ON AUTONOMIC NERVOUS SYSTEM

Adrenergics – Ephedra

cholinergics – pilocarpus

Anticholinergics – Datura, Belladonna

Antirheumatics – Guggul, Aconite

Anti spasmodics – Datura, Belladonna, Hyoscyamus

Anti malarials – cinchona, Artemisia

Anthelmintics – male fern, Quassia wood,

Anticancer – Vinca, Taxus, podophyllum

Astringents – Black catechu, Acholsa bark

Anti inflammatory – myrobalan colchicum corm & seed.

Local anaesthetics – coca

Immunizing agents – sera, vaccine

Both structural + reserve proteins can be used in the field of systematics as long as they belong to the same grp + the same organs r always compared.

→ Generally storage proteins r most amenable for taxonomic studies followed by pollen proteins. Stems ~~tube~~ tubers, algal cells, fern spores fruits + leaves can also be employed as satisfactory antigenic material for systematic investigations.

→ In this method a crude protein extract of a particular plant taxa (antigen) is injected in to blood stream of an experimental animal usually a rabbit (or) rat to develop antibodies.