

pharmacology - 1 -

science that deals with interaction of "drug" with living systems.
 science ^{beneficial/defective} interaction of "drug" with living systems.
 علم يدرس العلاقة والتفاعل بين جسم الكائن الحي وأدوية

Drugs: Chemical substances that shows biological activity
 مواد كيميائية (نشطة حيوية) (بتفاعل بالجسم)
 Used to diagnosis or treat a disease
 radioactive iodine ①
 contrast media ②

- pharmacology divisions -

pharmacodynamics

pharmacokinetics

"what the drug does to the body"
 كيف يشتغل الدواء وكيف الجسم يتأثر (بالعقاقير)

"what the body does to the drug"
 الجسم

includes

- type + quality of action (نوع + نوعية) ^{الدرجة}
- it's quantitative aspect (الكمية الجرعة)
- mechanism of action (الآلية التي يشتغل بها)
- safety of drugs on body tissues (أمن)

- absorption, distribution, elimination
- ↓ excretion
- metabolism

⇒ pharmacotherapeutics : the study of therapeutic uses of drugs
the proper use of drugs
الاستخدام الصحيح والقبول الدواء

⇒ Clinical pharmacology , 1) Drug pharmacology

2) Clinical evaluation of drug

↳ trials : تجارب العلاج ودراسات

⇒ toxicology : الأضرار الجانبية والتسمم
(harmful effects) السمي

Studies : data collection, analysis
(دراسات وتحليل)

★ sources of drugs ★

A) synthetic B) semi-synthetic C) natural

⇒ synthetic : completely made by factories or labs

⇒ semi synthetics : it's actually natural but modified chemically in labs so it can be used. (for improvement)

Natural : used directly from nature
less used

* Natural sources *

Organic

1. plants	2. Animals	3. microbes
<p>* Any part of the plant can be used</p> <p>* the same plant can contain more than 1 active ingredient.</p> <p>* Example of plant-based drug Vitamins, tannins, gums volatile oils, steroids, Alkaloids</p>	<p>proteins, Hormones vitamins, oils, enzymes vaccines and anti-sera</p>	<p>Fungi + Bacteria * source for Antibiotics فطريات ميكروبات (mushroom, yeast)</p>

* Alkaloids *

Have small nitrogen groups
examples, atropine, morphine
Caffeine, theophylline, quinine

* Pharmacognosy *

Branch of knowledge
concerned with medical drugs
obtained from plants/sources

علم الأدوية
التي مصدرها النباتات
والحيوانات والمواد الطبيعية
التي تستخدم في الطب

Non-Organic

Metal

platinum // zinc

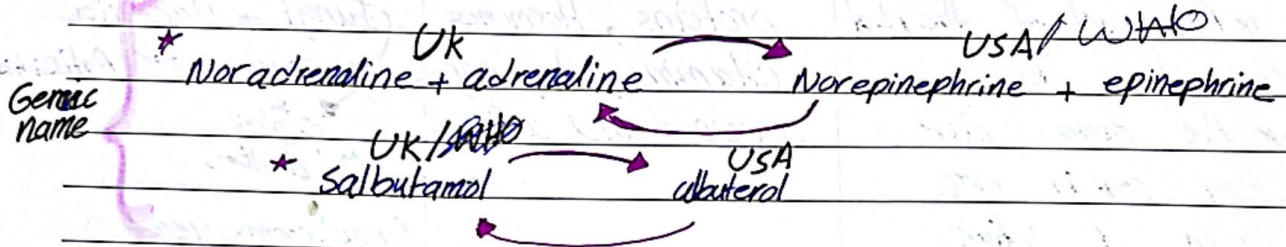
Non-Metal

Magnesium sulfate
sodium chloride

* Acetylsalicylic Acid & Aspirin
أسيتيل ساليسيليك أسيد

Chemical name

* Acetaminophen & paracetamol
أسيتامينوفين



- (caine) → Local Anesthetics

(olol) → Beta-adrenoreceptor blockers

ending &

of generic names of drugs

دايكلوفيناك (ديكلوفين) (ديكلوفين) (ديكلوفين)

* Diclofenac Na (Voltaren, Inflanban, Diclogesic) } Trade name
دايكلوفيناك

* parenteral *

injection or infusion by means of a needle or catheter

* Intradermal: in the Dermis (superficial) , epidermis

* Intraperitoneal: Body cavity, Dermis

* Intrathecal: spinal canal

* Subcutaneous: the injection is given in the fatty tissue (just under the skin) subcutaneous