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Psychopharmacology



Introduction as part of the
psychotherapy course



Psychopharmacology

- Definitions and classifications of psychotropic drugs
- dealing with psychotropic drugs
- tranquilizer
- hypnotics
- antidepressants
- Phase prophylactics (lithium, carbamazepine)
- Neuroleptics (antipsychotics)
- nootropics
- psychostimulants
- beta-receptor blockers
- Other psychotropic drugs

Psychopharmacology

- Milestones in the history of psychotropic drugs

Prehistory

Use of psychotropic drugs:

Opium, hashish, coca, peyote, etc.

Central American drugs, alcohol

Psychopharmacology



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BAYER PHARMACEUTICAL PRODUCTS.

Send for samples and Literature to

ARISTOL
The salicylic acid compound

CREOSOTE CARB
The best creosote

HEROIN
The sedative for coughs

FERRI-SOMATOSE
The iron-vegetable salt

HEMICRANIN
The specific for fevers

ASPIRIN
The substitute for the salicylates

PROTARGOL
The anti-gonorrhoeal

QUINALGEN
The anti-malarial

HEROIN-HYDROCHL.
The sedative for coughs

SALOPHEN
The antirheumatic and antineuralgic

PIPERAZINE
The anesthetic

CHLORAL CARB
The hypnotic

LYCETOL
The uric acid solvent

SOMATOSE
The most powerful salt

SYCOSE
The weakly laxative

EUROPHEN
The salicylic sodium

HEROIN-HYDROCHL.
The sedative for coughs

PHENACETIN
The acetate of heroin

TRIONAL
The diuretic bromide

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Psychopharmacology

- Milestones in the history of psychotropic drugs

antiquity

In ancient Greece, it was the drug of choice for the treatment of mental illnesses

Helleboros (two plants that were used as black Helleboros = Hellebore and white Helleboros = Germer)

Helleborus



HELLEBORE

Psychopharmacology

- Milestones in the history of psychotropic drugs

middle Ages

Use of plant extracts containing alkaloids; e.g. B. as a sleeping sponge or witches' drink (Datura, Mandragora, Monkshood, Rauwolfia, Hyoscyamus, Belladonna)

Datura



Mandragora - mandrake



Belladonna

deadly
nightshade



Belladonna



Psychopharmacology

- Milestones in the history of psychotropic drugs

1803 Morphine, isolation from opium

1826 Potassium bromide recognized as a sedative. In the middle of the 19th century, bromides were the first substances prescribed for sedatives and sleeping pills

Psychopharmacology

- Milestones in the history of psychotropic drugs

1869 Chloral hydrate is introduced as a sleeping pill, followed a little later by paraldehyde

1903 Barbitol, the first barbiturate is synthesized - a new therapeutic era begins

Psychopharmacology

- Milestones in the history of psychotropic drugs

1920 J. Klaesi practices barbiturate sleep cures

1938 Introduction of the antiepileptic diphenylhydantoin

1949 Discovery of the antimanic effect of lithium by J. Cade

Psychopharmacology

- Milestones in the history of psychotropic drugs
 - 1952** J. Delay and P. Deniker report on the antipsychotic effect of chlorpromazine (megaphene). It is the first "modern" psychotropic drug and predecessor of the phenothiazine neuroleptics.

Psychopharmacology

- Milestones in the history of psychotropic drugs

1957 R. Kuhn describes the antidepressant effectiveness of imipramine (Tofranil). The tricyclic antidepressants end the therapeutic helplessness of earlier times in antidepressant therapy.

Psychopharmacology

- Milestones in the history of psychotropic drugs
 - 1958** P. Janssen discovers haloperidol (Haldol), the first neuroleptic from the butyrophenone group.
 - 1960** Chlordiazepoxide (Librium), introduced by Sternbach as the first benzodiazepine derivative. 3 years later diazepam (Valium) followed and in the next few years many more benzodiazepine tranquilizers

Psychopharmacology

- Milestones in the history of psychotropic drugs

1958



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Psychopharmacology

- Milestones in the history of psychotropic drugs

1960



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Psychopharmacology

- Consumption statistics

Number of DDD (defined daily doses) in millions					
		1987	1990	1991	1993
Indication group					
antidepressants		175	225	228	266
neuroleptics		153	193	207	270
tranquilizer		446	355	355	343
hypnotics/sedatives		333	305	330	385
circulatory agents/ nootropics		737	702	680	693

Psychopharmacology

- Consumption statistics

Value in millions					
		1987	1990	1991	1993
Indication group					
antidepressants		292	337	356	420
neuroleptics		206	270	288	370
tranquilizer		285	198	185	192
hypnotics/sedatives		194	208	228	264
circulatory agents/ nootropics		1.427	1.171	1.144	1.279

Definition and classification of psychotropic drugs

tranquilizer

hypnotics

antidepressants

phase prophylactics

neuroleptics (antipsychotics)

Definition and classification of psychotropic drugs

psychostimulants

nootropics

Parkinson's drug

beta blockers

antiepileptics

Definition and classification of psychotropic drugs

Clomethiazol

Disulfiram

- 
- A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a dark blue horizontal bar with rounded ends.
- Studies to verify the properties of action and the development of new substances indicate that the transitions between neuroleptics, antidepressants and tranquilizers can be fluid and are partly dose-dependent.

dosage forms

- as ampoules (i.v., i.m., depot, for infusion)
- as tablets, capsules or dragees
- as drops and juice
- as suppositories or rectioles

dosage

- basically individual
- several times a day
- morning or evening dose
- higher dosage
- creeping dosage
- intermittently

dosage

- revenue fidelity - compliance
- duration of use

lifestyle habits

- Operation of machines - ability to react
- Driving motor vehicles – hang over
- Hypotonic dysregulation
- Accommodation disorders
- Dietary and behavioral measures

lifestyle habits

- Psychostimulants

- increase in aggressiveness
- tremble
- palpitations
- dizziness
- headache

TRANQUILIZER

are used to treat anxiety and stress

(lat. tranquillare = to calm down)

Ataraktika (gr. ataraktos = balanced)



until **1960** barbiturates,
then meprobamate,
today benzodiazepines

sedating-sleep-inducing, muscle-relaxing

- 
- Benzodiazepines
 - Low-dose neuroleptics
 - Chemically different tranquilizers
 - Beta Receptor Blockers
 - Phytotherapeutics (herbal sedatives)

A decorative graphic on the left side of the slide, consisting of a light green vertical bar and a white rounded rectangle with a dark blue horizontal bar extending from its right side.

The biochemical basis of fear

HYPNOTICS

Drugs that induce sleep

It is a question of dosage when a sedative becomes a hypnotic and vice versa.

ANTIDEPRESSANTS

also thymoleptics, drugs used to treat depression

from **1957** with the development and discovery of the "classic" tricyclic antidepressants (prototype imipramine)

mood-enhancing and drive-normalizing

no influence on mood in healthy people

- the "classic" tricyclic antidepressants
- tetracyclic and modified tricyclic antidepressants
- Chemically different antidepressants
- Serotonin selective antidepressants
- Monoamine Oxidase Inhibitors (MAOIs)

- Depression-relieving, mood-enhancing effect
- Psychomotorically activating, drive-increasing effect
- Psychomotor dampening, sedative-anxiety-relieving effect

- desipramine type
- imipramine type
- amitriptyline type

PHASE PROPHYLACTICS

LITHIUM

Metallic element discovered in **1818**

(greek lithos = stone)

1949 Established effectiveness in the treatment of manic states of excitement

- side effects
- initial
 - hand tremor
 - Gastrointestinal disorders (nausea, loose stools, polyuria, thirst)
- later
 - hand tremor
 - weight gain
 - Polyuria, thirst, edema, kidney damage
 - dizziness
 - Moderate leukocytosis
 - goiter
 - Weakness, rare: confusion
- very rare ECG, EEG changes, acne, psoriasis, muscle weakness, hair loss

NEUROLEPTICS (antipsychotics)

have a characteristic spectrum of effects on the symptoms of psychotic illnesses

influencing thinking and behavioral disorders, psychomotor states of excitement, affective tensions, delusions.

NOOTROPICS

Drugs that act on the central nervous system and are intended to improve brain functions such as memory, concentration, learning and thinking skills

PSYCHOSTIMULANTS

Drugs that (temporarily) increase mental activity

States of exhaustion, feelings of tiredness are bridged,
feelings of hunger are suppressed



- Indications

- NARCOLEPSIA

- HYPERKINETIC SYNDROME

- Caffeine
- Alcohol (in low doses)
- Nicotine
- Cocaine

- amphetamine derivatives
(Ritalin, AN1, Captagon, Tradon, Katovit N)

BETA BLOCKERS

initially for the treatment of certain forms of arterial high pressure

Anxiety syndrome, hyperkinetic cardiac syndrome, uncomfortable heart-related discomfort (e.g., tightness)

OTHER PSYCHOPHARMACEUTICALS

ANTI-EPILEPTICS

PARKINSON'S MEANS

DISULFIRAM (Antabuse) -> Accumulation of acetaldehyde in the blood when taking alcohol
-> vegetative intolerance reactions

CLOMETHIAZOLE (distraneurin) → sedative, anticonvulsant and hypnotic properties → in delirium tremens

CYPROTERON (Androcur) → steroid hormone with antiandrogenic and gestagenic effect in abnormal and increased sexuality