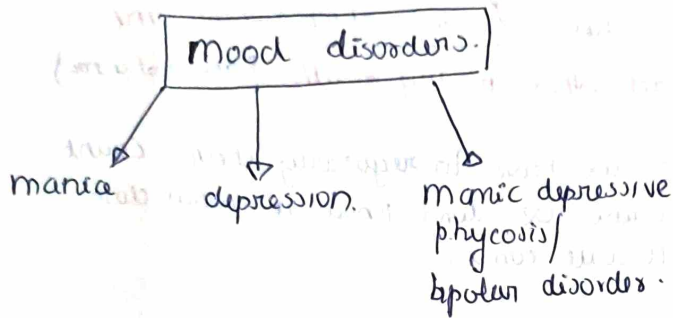


DRUGS FOR Mania & Depression



Acute mania

presents as? hyperactive, aggressive, violent.

so, what is the aim of treatment?

→ to sedate him

ie, DOC in acute mania

Antipsychotics / B2D (ie, sedative)

But, just sedation won't improve his mood... and when sedation wears off he'll be again aggressive...

So for mood stabilization we need,

Lithium → takes 7 days to work.

treatment in acute mania →

Lithium under the cover of sedatives.

DOC for prophylaxis of mania

Lithium

V.V. imp't for m.c.p. all or at least 1 c.m. from lithium

Lithium

- It is a monovalent cation like Na⁺
- Lithium - 100% oral B.A.
- T_{1/2} = 24 hours.

? Even though its T_{1/2} is long, we give it TOS (x3). why?

→ cause. It has Narrow therapeutic range.

→ so we split dose and give low doses to prevent toxicity.

★ plasma con ★ needed m^o

acute mania: 0.8 - 1.2 meq/L

prophylaxis: 0.5 - 0.8 meq/L

Toxicity starts > 1.5 meq/L.

fatal toxicity: > 2 meq/L.

plasma level of lithium is

checked at trough level. trough

12 hours after last dose.

Kidney can't differentiate Na⁺ & Li⁺

- and that's unwanted trouble.
- Normally, if we eat too much sodium for 2 days, we usually don't get hypertension? cause kidney excretes excess sodium.
- Similarly, if we eat too less sodium we usually don't get hypotension, cause our body detects it and retains sodium. (at therapeutic range).

if a person on lithium, fasted for 2 days... No sodium right?
→ Body will think there is not enough sodium & will reabsorb... But it will reabsorb Li⁺ as well.

↓
Li⁺ toxicity

• If a patient is on lithium, had HTN and was prescribed thiazides.

- thiazides cause sodium excretion.
- at DCT.
- Body detects it and tries to reabsorb Na⁺ (along with Li⁺ too) from whole tubules.

→ Li⁺ toxicity.

cases where Li⁺ taking patients at normal range can get toxicity!

- ① fasting.
- ② thiazides.

other drugs causing Li⁺ toxicity

LIITHIUM

↓
lisinopril, thiazides, Indomethacin

How to know Li⁺ toxicity has occurred?

Toxicity symptoms

Diarrhea,
Ataxia,
Tinnitus

} if DAT symptoms come, come to hospital asap

Excretion

- occurs from kidney.
- But also from sweat & saliva *mca

Drug Excreted by sweat & saliva — Lithium.

So hemodialysis is used in toxicity

L - Leucocytes
I - Inflammation

MOA
leucocytosis, causing drugs
* Li
* steroids
* G-CSF
granulocyte colony stimulating factor

T - tremors

H - Hypothyroidism

I - Increase urine
U - uric acid, polyuria

m/c side of Li

m. → avoided. in pregnancy. → Ebstein anomaly.
↓
brucipid abnesia.

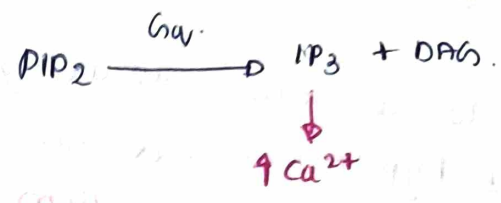
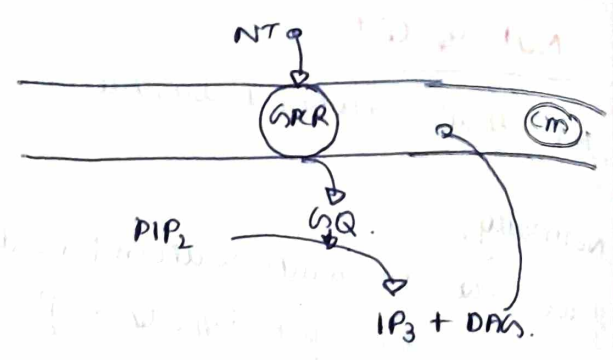
uses

- * acute mania
- * bipolar disorder.
- * unipolar depression.
- * Neutropenia. (theoretically)

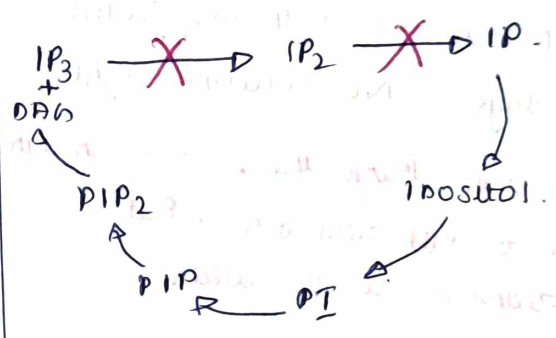
MOA

Li can treat both mania & depression that seems like opposite conditions.

in mania → over stimulation of neurons due to $\uparrow Ca^{2+}$.



for recycling inositol



Li ⊖ phosphatase enzyme.

↓
⊖ recycling of PIP2.

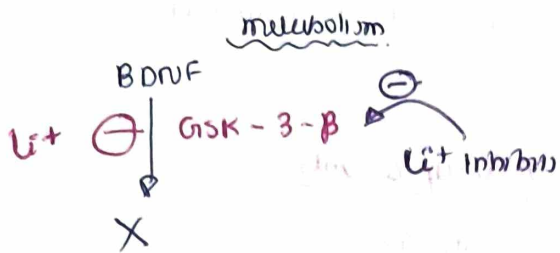
X ————— X

depression

theory: In depression there is deficiency of BDNF.

- Brain derived neurotrophic factor for sideways branching of neurons & way forwards ie, neuronal plasticity.

If no BDNF, neuronal inhibition with each other ↓ depression occurs.



⇒ so, BDNF ↑, No depression.

Li treats both mania & depression.

Bipolar disorder

- has both mania and depression.
- to prevent mania & depression.

Li+ ↑ suicide in depression.



⇒ treatment of Bipolar disorder: Li+
 (there's nothing like prophylaxis of Bip. ds)

Li+ → mood stabilizer

⇒ will prevent patient from getting mania & depression

Prophylaxis of mania.

- ① Li^+ - DOC.
- ② antiepileptic drugs - CBZ, Topiramate, Valproate. - (DOC) in stupor & cycles. very neurotoxic
- ③ antipsychotic drugs.

in pregnancy, prophylaxis.

DOC → Anti-psychotic drugs

If not, Li^+ can be given but Valproate NEVER GIVEN (C/I)

Prophylaxis of depression

- ① Lithium.
- ② Lamotrigine