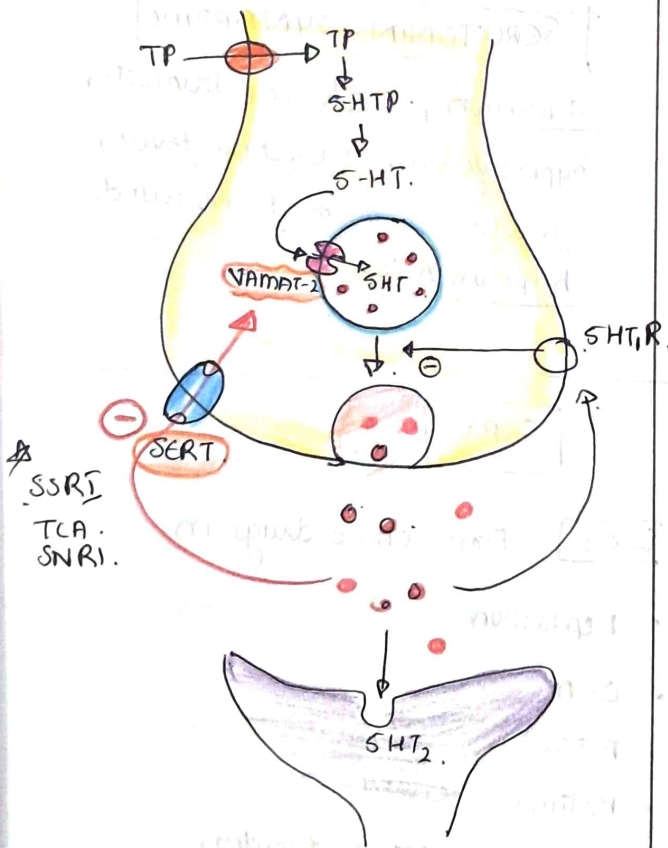


SSRI

- Fluoxetine
- ~~Fluoxetine~~
- Fluvoxamine
- Paroxetine
- Escitalopram
- Citalopram

MOA



SSRIs

↓

bind to **SERT** - serotonin transporter

on presynaptic neuron.

↓

Inhibits reuptake of serotonin into the presynaptic neuron.

↓

serotonin level in synaptic cleft increases

↓

more serotonin binds to postsynaptic receptors

↓

Enhanced serotonergic neurotransmission.

↑ production of BDNF. & other NGFs

↓

anti depressant effect.

Brain derived neurotrophic factor
Nerve growth factor

TP → Tryptophan

↓
5HTP

↓
5HT

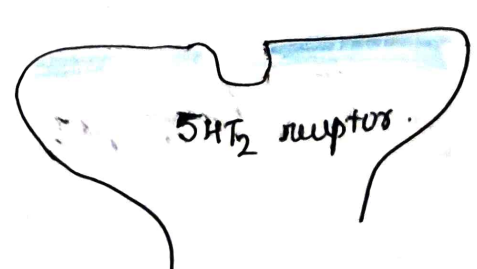
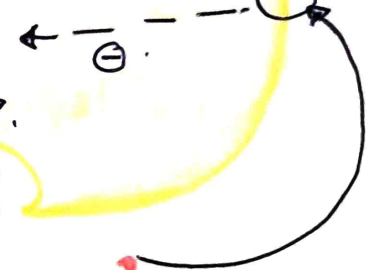


SERT: serotonin transporter



SSRI
TCA

5HT1A



advantages of SSRI over TCA

- 1) No anticholinergic - {dry mouth, constipation, urinary retention}
- No alpha 1 blocking - {orthostatic hypotension}
- No antihistaminergic - {sedation}
- No cardiac side effects.

2) No sedation or weight gain.

3) No propensity to cause arrhythmias & seizures.

4) Safer in overdose.

5) More selective - primarily target 5HT reuptake.

TCA: ⊖ NA reuptake also.
+ block M, H₁, α₁ receptors.

6) ~~caused~~ orthostatic hypotension. X

7) Safer in elderly.

why pethidine is avoided

pethidine → Serotonin reuptake inhibiting properties.

if you combine that with SSRIs - {that already ↑ serotonin}

↓
Excess serotonin in CNS.

SEROTONIN SYNDROME

agitation, confusion, tremors, hyperreflexia, sweating, fever, seizures & death if untreated.
hyperthermia

SSRI

USES First choice drugs in

- Depression
- OCD
- PTSD
- Bulimia nervosa.
- Generalized anxiety disorders.
- Kleptomania.

ADR

- Nausea → most frequent s/e.
- Anxiety → and most common.
- diarrhoea → next m/c.

- decreased libido,
delayed ejaculation,
anorgasmia.

- 'discontinuation syndrome'
on sudden withdrawal.

- ⊖ platelet function → ecchymosis

D/I

- ① with other serotonergic drugs.

↓
MAOIs, pethidine, Tramadol,
Tryptans, linezolid.

↓
Serotonin syndrome.

- ② with anticoagulants / antiplatelets / NSAIDs

↓
A Bleeding tendency.

- ③ SSRIs are Enzyme Inhibitors.

TCA

- amitriptyline.
- Imipramine.
- Nortriptyline.
- Desipramine.

MOA → shanbug figure

- block reuptake of NA & 5HT.

into presynaptic terminals by.

Inhibiting NET & SERT.

transporters.

Block.

NET
SERT
α
M
H₁

ADR

- sedation, mental confusion, weakness.

- M # : anticholinergic s/e.

↓
• dry mouth, blurred vision,
urinary retention.

- increased appetite & weight gain.

- postural hypotension.

- TCA ↓ seizure threshold.

↓
ppt convulsion in epileptics.

- arrhythmias.

CIE

- glaucoma
- epilepsy
- Ischemic heart d.
- enlarged prostate.

Additional Questions

✓ anxiety disorders (K23)

✓ cheese reaction ✓ (Tara)

✓ serotonin syndrome ✓

✓ why antidepressants take 2-3 weeks to work

✓ classify AD.

Anxiety ds.

- types: GAD
- PTSD
- OCD
- social phobia.

First line: SSRI, SNRI

Second line: BZD.

Reason for Anxiety

↑ NA, ↓ Serotonin, ↓ GABA.

↓ overactivation of limbic system/amygdala circuits,

• Hypersensitive HPA axis.

Why pethidine avoided?

① serotonin syndrome ✓

② Neurotoxic metabolite accumulation

↓

Normeperidine.

{ SSRI, MAO - reduces its clearance }

↓ accumulation

CNS excitation → tremor

muscle rigidity