HALLUCINOGENS & TCAs

A resource for health professionals

A BIT ABOUT TRICYCLIC ANTIDEPRESSANTS (TCAs)

TCAs are used for the treatment of moderate-severe depression and anxiety where other antidepressants have been ineffective. They are also useful at lower doses for the treatment of various types of pain.

TCAs block serotonin and noradrenaline transporters, increasing the level of these two neurotransmitters in the brain. The degree to which each of these transporters is affected differs between tricyclics. Some tricyclics also block serotonin 5-HT_{2A} and 5-HT_{2C} receptors, which may contribute to their antidepressant and anti-anxiety effects.

TCAs do not relieve symptoms of depression or anxiety straight away: some symptomatic improvement generally occurs within 1 - 2 weeks (if the antidepressant is working), but it can take about 4 weeks for their full effects to emerge. The reasons for this are not particularly well understood, although adaptive changes within the serotonin/noradrenaline systems likely play a role (such as decreases in the number or sensitivity of certain receptors). New neuronal growth (neurogenesis) may be important for the development of the antidepressant effect.

While the serotonergic and noradrenergic actions of tricyclics are important, the theory that depression is caused by a chemical imbalance in these neurotransmitters is not well supported by the science. The causes of depression and anxiety vary from person to person, and there are many contributing factors. A holistic approach to the treatment of depression and anxiety is therefore important.

SOME OF THE SIDE EFFECTS

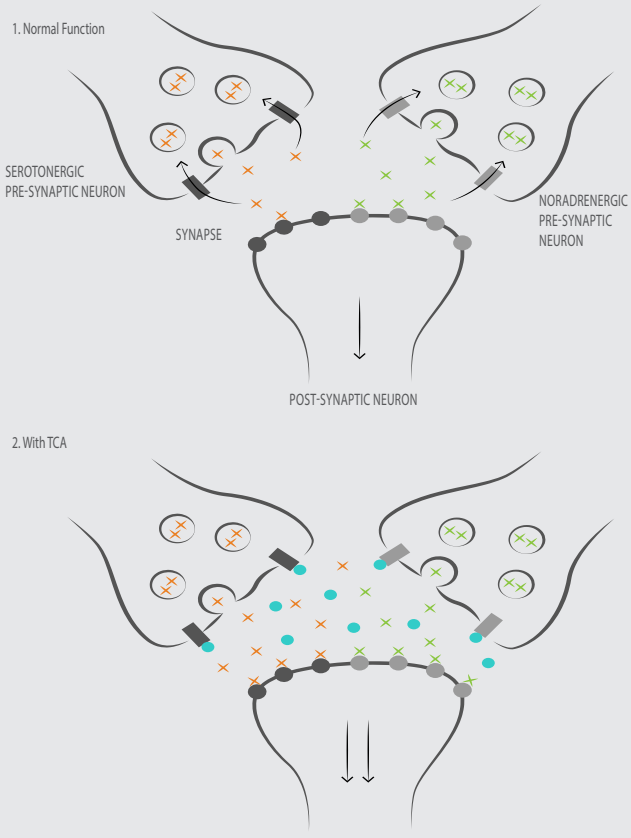
TCAs bind to many different targets in the brain contributing to a wide range of adverse effects. Like SSRIs and SNRIs, they are commonly associated with gastrointestinal discomfort (e.g. nausea, diarrhoea), dizziness, weakness, headache, sweating and sexual dysfunction. Their actions on other neurotransmitter systems can lead to weight gain, sedation, dry mouth, blurred vision, urinary retention, orthostatic hypotension and tachycardia. TCAs can cause a switch to mania or precipitate suicidal ideation and behaviour.

Discontinuation syndrome can also occur with TCAs, particularly amitriptyline and imipramine. Symptoms include gastrointestinal problems (abdominal cramps, diarrhoea), hypersalivation, runny nose and sleep disturbance.

Tricyclic antidepressants are very dangerous in overdose, with a high risk of fatality due to seizures, coma, arrhythmias and cardiac arrest.

FOR EXAMPLE:

- Amitriptyline (e.g. Endep)
- Clomipramine (e.g. Anafrantil)
- Dothiepin (e.g. Dothep)
- Doxepin (e.g. Deptran)
- Imipramine (e.g.Tofranil)
- Nortriptyline (e.g. Allegron)



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HOW HALLUCINOGENS WORK

Hallucinogens include drugs such as LSD, magic mushrooms and mescaline. Scientists don't really know how hallucinogens work, except that LSD works on the serotonin system – the part of the brain which regulates the mood.

LSD is a synthetic hallucinogen that is similar to naturally occurring plant-based hallucinogens. Sometimes drugs sold as LSD contain other hallucinogens, making it difficult to predict the possible interactions the drug may have with other drugs or medications a person is taking.

The intensity and duration of effects can also differ from person to person and it is difficult to predict what these will be before taking the drug.

DMT
(The Businessman's Lunch)

MAGIC MUSHROOMS
(Psilocybin)

LSD
(Acid)

MESCALINE
(Peyote cactus)

SOME FUN FACTS ABOUT HALLUCINOGENS

THE GOOD	THE BAD	THE REALLY BAD
Can amplify/enhance the senses	A bad trip can cause paranoia and panic	Hallucinogen Perception Persisting Disorder
Changes perception of time and space	Increased heart rate and blood pressure	Can cause liver problems
Euphoria and laughter	Confusion and delirium	PTSD like responses after the trip is over

HALLUCINOGENS & TCAs

This resource provides general advice regarding some of the potential interactions between hallucinogens and TCAs. Hallucinogens include drugs such as LSD or magic mushrooms. It is important to note there may be additional or different interactions depending on genetic factors, the amount, type and purity of the hallucinogens being consumed or if your patient is taking other types of drugs.

Combining LSD and TCAs can increase the risk of serotonin toxicity due to additive effects on serotonin.

TCAs & OTHER PRESCRIPTION DRUGS

TCAs should be used with caution with other serotonergic drugs (including many antidepressants, opioids such as tramadol and fentanyl, dapoxetine and St John's Wort) due to the risk of serotonin toxicity.

There is a potential for interactions with anti-hypertensives (decreased anti-hypertensive effects, increased risk of postural hypotension) and antihistamines (increased side effects, cognitive impairment, constipation).

Some SSRIs, particularly fluvoxamine, and to a lesser extent fluoxetine and paroxetine may increase TCA plasma levels through competition for the same hepatic enzyme, increasing the risk of toxicity. Valproate and venlafaxine may also increase TCA plasma levels; the latter is also associated with increased risk of seizure.

Use of a MAOI in combination with a TCA is contraindicated.