

## ANTIDEPRESSANTS: MAOIs (p.1)

### 1. Mono-Amine Oxidase Inhibitors (MAOIs)

developed in the 1950s

are very effective (as effective as the tri-cyclic antidepressants/TCAs)

their use is limited by serious (even fatal) side-effects

if taken with other catecholamine agonists

major concern is **HBP** --- **cardiovascular accidents** (“strokes”)

### 2. Current Uses for MAOIs

are very effective

can be **safer than TCAs** (esp. re. cardiac arrhythmias)

can work in pts. in whom TCAs/SSRIs have failed to work

are esp. useful in pts. with “**atypical depression**”

are esp. useful in pts. with **mixed depression & anxiety**

are good for tx of **anorexia, bulimia**

are good for tx of **bipolar depression & dysthymia**

are **not** good for tx. for depression in **elderly patients**...why?

are good for tx. of **panic attacks** and for **phobias**

## **ANTIDEPRESSANTS: MAOIs (p.2)**

### **3. MAOI Effects on NS/Body**

there are actually **two MAO enzymes**:

MAOA – found in NE and 5HT axon terminals

MAOB – found in DA axon terminals, GI tract, liver

MAOIs block both enzymes --- beneficial main effects & neg. SEs

### **4. Non-Selective & Irreversible MAOIs**

non-selective = block both MAOA and B enzymes

irreversible = the MAOI enzyme is permanently blocked

only when new molecules of MAO (A/B) are synthesized can they again metabolize monoamines (NE, 5HT, DA)

**issues re. switching from one drug to another**

e.g. MAOI to an SSRI or TCA

### **5. Particular MAOIs (non-selective, irreversible)**

phenelzine (Nardil), tranylcypromine (Parnate), isocarboxazid (Marplan)

### **6. Pharmacokinetics:**

**Parnate** –  $\frac{1}{2}$  life = 2 hours, but is irreversible (is actually active metabolite that actually binds to MAO molecule)

as the S keeps taking Parnate, over one week about 70% of the MAO is blocked, slowly reaches a “**steady state**” between blocked MAO molecules and newly formed unblocked molecules of MAO

if S D/Cs the Parnate, it may take several weeks for the MAO levels to recover to normal/baseline levels

thus, may need **2 to 3 weeks of washout period** before starting a new (monoamine agonistic) antidepressant

neg. SEs:

## **ANTIDEPRESSANTS: MAOIs (p.3)**

### **7. Reversible & Selective MAOIs**

are not available in USA yet...but will be  
are short acting & highly selective, esp. for MAOA  
have little effect on MAOBs, and thus eating tyramine-rich foods  
is not a problem  
because are short acting, multiple doses are necessary  
no long-term deactivation of MAOA, no effect on MAOB  
minimal neg. SEs

e.g. brofaromine  
toloxatone  
pirlindole  
meclobemide (Aurorix)  
deprenyl, selegiline (Eldepryl)

### **8. Miscellaneous**

effects on sleep architecture

“cheese reaction” & how to by-pass same

Potentiation of other drugs