UPMC PALLIATIVE AND SUPPORTIVE INSTITUTE

THE TABLET: PALLIATIVE CARE PHARMACY TIPS

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If you have a topic you would like the pharmacy team to answer, please send your suggestions to: lowrymf@upmc.edu

TODAY'S TOPIC:

Antidepressant Class Review

Background:

Antidepressants have been used to treat depression, anxiety, neuropathic pain, fibromyalgia, and other symptoms in palliative care patients. Many different classes such as SSRIs, SNRIs, TCAs, etc. exist. Each antidepressant has unique properties that can make it the best fit for a patient.

Importance:

Palliative care clinicians should be aware of the individual characteristics of commonly used antidepressant medications to choose the most appropriate medication for their patients. For example, TCAs are considered potentially inappropriate medications in a geriatric populace and bupropion lowers the seizure threshold. It is also important to remember that antidepressants may take a few weeks to exhibit their effects.

The Literature:

Many resources exist that review the use of different classes of antidepressants. The table below can act as a guide to help clinicians with their initial choice of antidepressants therapy. This list is not comprehensive, and references accessed are listed at the end of this guide.

	Available Formulations	Metabolism (Main)	Dosing Adjustments
SSRI		(
Sertraline	Capsule, oral	Hepatic; CYP3A4	Deer education of
Citalopram	concentrate, tablet Capsule, solution, tablet	Hepatic; CYP2C19, 3A4	Dose adjust in hepatic impairment
Escitalopram	Tablet, solution	Hepatic; CYP2C19, 31A	Dose adjust in renal and hepatic impairment
Fluvoxamine	Capsule ER 24H, tablet	Hepatic; CYP2C9/10,	No adjustment
Paroxetine	Capsule, suspension, tablet, tablet ER 24H	2C19, 3A4 Hepatic; CYP2D6	Dose adjust in renal and hepatic impairment
Fluoxetine	Capsule, Capsule delayed release,	Hepatic; CYP2D6	Dose adjust in hepatic impairment
SNRI	solution, tablet		
Venlafaxine	Capsule ER 24H,	Hepatic;	Dose adjust in renal and
Duloxetine	tablet, tablet ER 24H Capsule delayed release particles and	CYP2C19, 3A4 Hepatic; CYP1A2,	hepatic impairment Avoid use in renal and
	sprinkle	2D6	hepatic impairment
TCA		Hepatic; CYP2D6;	
Amitriptyline	Tablet	2C19	
Nortriptyline	Capsule, solution	Hepatic; CYP2D6	Dos adjust in hepatic impairment
Doxepin	Capsule, tablet, oral concentrate	Hepatic; CYP2C19; 2D6	P
Misc.			I
Mirtazapine	Tablet, ODT	Hepatic; CYP1A2, 2D6, 3A4, demethylation, and hydroxylation	Dose adjust in renal and hepatic impairment
Trazodone	Tablet	Hepatic; CYP3A4	Dose adjust in renal
.	Tablet, Tablet ER	Hepatic; 2B6;	Dose adjust in renal
Bupropion		• • •	impairment
	12H, Tablet ER 24H	Oxidation	impairment
	12H, Tablet ER 24H	Oxidation	
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*See separate Tablet Article (V1N8) focusing on QTC prolongation with antidepressants

Bottom Line:

You can utilize individual properties of antidepressants to aid in your selection for your patients while considering patient-specific factors

CLINICAL PEARL: You can utilize individual properties of antidepressants to aid in your selection while considering patient-specific factors

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References:

- Marken, P. A., & Munro, J. S. (2000). Selecting a Selective Serotonin Reuptake Inhibitor: Clinically Important Distinguishing Features. Primary care companion to the Journal of clinical psychiatry, 2(6), 205–210. <u>https://doi.org/10.4088/pcc.v02n0602</u>
- 2. Sansone, R. A., & Sansone, L. A. (2014). Serotonin norepinephrine reuptake inhibitors: a pharmacological comparison. Innovations in clinical neuroscience, 11(3-4), 37–42.
- Moraczewski J, Aedma KK. Tricyclic Antidepressants. [Updated 2021 Nov 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <u>https://www.ncbi.nlm.nih.gov/books/NBK557791/</u>
- Jilani TN, Gibbons JR, Faizy RM, et al. Mirtazapine. [Updated 2021 Aug 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <u>https://www.ncbi.nlm.nih.gov/books/NBK519059/</u>
- Shin JJ, Saadabadi A. Trazodone. [Updated 2021 Aug 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <u>https://www.ncbi.nlm.nih.gov/books/NBK470560/</u>
- Huecker MR, Smiley A, Saadabadi A. Bupropion. [Updated 2021 Oct 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: <u>https://www.ncbi.nlm.nih.gov/books/NBK470212/</u>
- Dean L. Amitriptyline Therapy and CYP2D6 and CYP2C19 Genotype. 2017 Mar 23. In: Pratt VM, Scott SA, Pirmohamed M, et al., editors. Medical Genetics Summaries [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2012-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK425165/

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