Original Article

A Case Study Approach: Psychopharmacology for Atypical Antidepressants

Snap Shot

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Abstract

Major depression is one of most common mental illnesses affecting 6.7% of American adults each year. Depression leads to disruption in daily lives and life’s pleasures accompanied by serious medical problems which may lead to suicide (MHA, 2018). The advance practice psychiatric nurse practitioner must conduct an assessment and workup to rule out disorders such as hypothyroidism, anemia, kindness or renal impairment, cancers, or cardiac illness (Weber & Estes, 2016). Children with a traumatic childhood, particularly those that constitute major setbacks in life are at greater risk for depression later in life. The aim of this paper is to discuss the review of diagnostic criteria and considerations, pseudonym case study, over and review of general indications of atypical antidepressants, and conclusions and implications for the case approach.

Key words: antidepressants, psych mental health nurse practitioners, major depression, atypical

Introduction

Major depression is one of most common mental illnesses affecting 6.7% of American adults each year. Depression leads to disruption in daily lives and life’s pleasures accompanied by serious medical problems which may lead to suicide (MHA, 2018). According to the latest DSM-V, depression does not discriminate it affects persons from every walk of life including children and the elderly (APA, 2013). Major Depressive Disorder (MDD), also known Clinical Depression), is characterized by an inescapable and ongoing low mood often accompanied by low self-esteem, loss of interest or pleasure in activities than a person used to fine enjoyable (MHA, 2018). The advance practice psychiatric nurse practitioner must conduct an assessment and workup to rule out disorders such as hypothyroidism, anemia, kindness or renal impairment, cancers, or cardiac illness (Weber & Estes, 2016). Risk and prognostic factors include temperamental, environmental, genetic and physiological, and course modifiers. Neuroticism, a negative affectivity) is well-established risk factor for the onset of major depressive disorder, and high levels appear to render individual more likely to develop depressive episodes in response to stressful life events. Children with a traumatic childhood, particularly those that constitute major setbacks in life are at greater risk for depression later in life. First-degree family members of individual with major depressive disorder have a two to fourfold higher risk than the general population to develop depression. Any major non-mood disorders can increase the risk of developing depression later in life (APA, 2013). The Food
and Drug Administration (FDA) approved five atypical antidepressants used to treat depression. These five drugs are Bupropion (Wellbutrin, Forfivo XL, Aplenzin), Mirtazapine (Remeron), Nefazodone (Serzone, Dutonin), Trazodone (Desyrel, Oleptro), and Vortioxetine (Trintellix). The aim of this paper is to discuss the review of diagnostic criteria and considerations, case study, over and review of general indications of atypical antidepressants, and conclusions and implications for the case approach.

Review of Diagnostic Criteria and Considerations: MDD is an episodic, frequently recurring syndrome requiring five or more criteria present for two weeks. One of these nine criteria must be either persistent depressed mood or pervasive anhedonia. Other symptoms can include sleep disturbance, loss of appetite loss or gain and or weigh gain loss or gain, fatigue, psychomotor retardation or agitation including feelings of worthlessness or thoughts of suicide (DSM-5). The DSM-5 includes a note indicated to do not include symptoms that are clearly attributable to another medical condition. Coding and recording procedures according to the DSM-5 indicates that for recurrent moderate episode 296.32 (F33.1) (APA, 2013).

Neurobiology: The neurobiology of depression has been evolving and changing over the last decade. In the classic monoamine theory of depression, the emphasis was on a decadency of norepinephrine (NE, serotonin (5HT), and dopamine (DA). Although this theory corresponds to the use of current antidepressant, there is little data to support it and some research results give conflicting evident (Stahl, 2013, Cogburn, 2018). This theory has been supplemented with a more complicated view that involves how the neurotransmitter symptom regulates information process in key areas of the neurological system related to symptoms of depression (Stahl, 2013).

Assessment and Screening: According to Weber and Estes (2016), screening and assessment for persons suspected with depressive mood or probable diagnosis of depression must go through a workup to exclude disorders other possible illness. In addition to a workup, the clinician can use an important screen tool which can help the clinical rule out depressive disorder or bipolar disorder. This is the Mood Disorder Questionnaire (MDQ). This tool can help the provider form a differentiation whether the patient has had prior hypomania or manic episodes which may indicate bipolar disorder. Another screening tool is the Patient Health Questionnaire (PHQ-9) and the Center for Epidemiological Studies Depression Scale (CEDS) has both been used in primary care for depression and can be used in the waiting room to screen for mood disorders. Both used as screening tools and should not be used for diagnostic purposes. When the clinician chooses tools for diagnostic purposes, the tools should be reliable and valid such as the Beck Depression Inventory and the Inventory Depressive Symptomatology (IDS) and Self Report. These have been used to assist the clinician to diagnose and manage progress of treatment (Weber & Estes, 2016).

Another major responsibility of the clinician is screening for the presence of suicidality and level of or severity of risk of suicide. Once tool to assess for suicide is the Substance Abuse and Mental Health Services Administration (SAMHSA, 2018) has developed a five-step suicide assess, evaluation, and triage method to identify both risk and protective factors. The Suicide assessment Five-Step Evaluation and Triage, SAFE-T Assessment of Suicide risk includes 1) identify risk factors; 2) identify protective factors; 3) conduct suicide inquiry; 4) determine risk or level of intervention, and 5) documentation (Weber & Estes, 2016, p.899). Children and the elderly are the most vulnerable when it comes to antidepressants
with increased risks of suicide. Cautions exist to use SSRIS with children or teenagers. As suicidal depressed patient begins to improve with treatment, the act of suicide is carried out due to an increase in physical energy (as cited in Weber & Estes, p. 909). A faux/pseudonym case presentation is discussed below for learning purposes. The actual case does not exist.

Case Study (pseudonym)

Ms. T. is a 72-year-old African American woman who is recently divorced with 2 children and 5 grandchildren. She was employed by Tell Tell South Metrics of American for 15 years and now enjoys retirement. Her hobbies include going to the casinos to gamble four times a week with friends. She takes her retirement check and exhausts it all on gambling, leaving no money to pay her bills or personal items. She lives with her mother in a rural community. In the last 6 weeks, her oldest daughter noticed that Ms. T does not want to go gambling anymore and she is often very sad and uninterested in hanging out with friends. The daughter decided to bring her to a therapist. The waiting room assessment tool was used to screen for any possible behaviors that would warrant further evaluation. A suicide screen tool was used to assess risk of suicidal level and safety. Denies any recent losses or deaths in family. Patient denied suicidal thoughts. Daughter reports dry and irritated skin to lower legs, vital signs 120/82, 80, 12, 98.2. weight-265 lbs.

Upon interviewing the Ms. T. and her daughter, the daughter indicated that for the last month her mother has been very tired staying in her room on most days, disinterested in her normal routines or hobbies, neglecting hygiene, and increased appetite. The patient responses to yes or no answers and her head is face down to the floor most of the session. Patient denies pain, SOB, her past medical history is without significant falls, head injury, heart/respiratory conditions, NKDA. Upon mini-mental (Mini-Cog): Appearance: Hair unkept, clean today (daughter stated that earlier she gave her a bath) and dressed in pants and t-shirt. Mood was described as “been feeling down and out”, Affect is flat. Memory, language, attention and executive functioning were intact. Old records revealed she had a prior diagnosis of MDD and upon asking the daughter she replied, “oh yeah! Momma did go to the doctor in her early 40s when she was that medicine got momma messed up and she gained a lot of weight. She ate all day plus my dad would complain she wouldn’t let him touch her”.

Old records indicated she had been previously treated for depression with bupropion and developed a rash and noncompliance with it. Today’s visit labs reveal chemistry levels within normal limits, Complete blood count (CBC) within normal limits, cholesterol within normal limits, and glucose within normal limits. Body mass index greater than 24 with a fasting blood sugar of 112 mg/dl. Liver function studies within normal limits, Bilirubin Urea Nitrates (BUN) and creatinine within normal limits. Denies suicidal attempts or thinking in past or currently.

Review of General Indications

Mirtazapine (Remeron) is Food and Drug Administration (FDA) approved for Major Depressive Disorder (MDD). Off-label uses may include Panic Disorder, Generalized (GAD) and Posttraumatic Stress Disorder (PTSD). leads to rapid and sustained improvement in depressive symptoms and is effective in subgroups of depressed patients, particular anxious patient and those with melancholic depression treatment -resistant depression, geriatric depression, depression and anxiety associated with alcohol dependence, and agitated elderly patients. Mirtazapine has a range of clinically useful applications including improving sleep,
antiemetic, appetite improvement, management of pain, weight gain (Alam, Voronovich, & Carley, 2013). A snapshot (overview) of atypical antidepressants drugs, developed by Potter (2018) are provided in Table 1. 1. It provides information on drug class, generic name, brand name, mechanism of action, FDA approved indications and off-label indications, dosing, side effects including black box warnings, special populations precautions, and drug interactions.

According to Stahl (2017), Mirtazapine boosts neurotransmission and blocks alpha 2 adrenergic presynaptic receptor, increases serotonin neurotransmission, and blocks 5HT2C, 5HT3, and histamine 1 receptors. Indications for this drug includes MDD, Seasonal affective disorder, Nicotine addiction, Bipolar Disorder, Attentional Deficit Hyperactivity Disorder (ADHD), and sexual disorders (Stahl, 2017). This medication was chosen to treat Ms. T with because of its side effect profile. Out of all the other atypical antidepressants, Mirtazapine was found to have the fewest side effects, adverse reactions and unique mechanisms of action then some of the other atypical antidepressants.

Conclusions and Implications for Advanced Practiced Registered Nurses (APRNs): After ruling out Bipolar and other psychiatric disorders along with anemic, and suicidality, I started Ms. T. on Mirtazapine 15 mg by mouth every night. Because it is safe long-term and not habit forming, Mirtazapine maybe tolerated better than Bupropion. The patient presented to the clinic today with an existing raised generalized rash to her skin, thus Bupropion has a warning of potential for Steven’s Johnston Syndrome (Stahl, 2018). Mirtazapine may also cause some notable side effects of lowering white blood cell count, may increase cholesterol, may cause photosensitivity, included teaching patient and her daughter on side effects, skin protective measures, and check weekly labs CBC, LDL & HDL cholesterol, triglycerides, liver function studies, glucose, monitor body mass index (BMI), screen for suicidal ideation each visit. Follow up visit next week.
<table>
<thead>
<tr>
<th>Class / Atypical Antidepressants</th>
<th>Generic Agent</th>
<th>Brand Name(s)</th>
<th>MOA</th>
<th>Indications *FDA</th>
<th>Dosing</th>
<th>SE/ADR/BBW Drug-Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dopamine reuptake inhibitor &amp; releaser, NDRI (NE DA reuptake inhibitor)</td>
<td>1. Bupropion</td>
<td>Wellbutrin Forfivo XL, Aplenzin</td>
<td>Boosts neurotransmitter NE &amp; DA, blocks NE reuptake pump increasing NE neurotransmission, blocks DA reuptake increasing DA neurotransmission,</td>
<td>*MDD, *Seasonal affective disorder, *Nicotine addiction, Bipolar, ADHD, Sexual disorders</td>
<td>225-450 mg in 3 divided doses SR 200-445mg in 2 divided doses XL 150mg, 300mg, 450mg hydrobromide ER 174 mg, 378mg, 522 mg</td>
<td>Dry mouth, constipation, nausea, weight loss, anorexia, tremor, HA, constipation, sweating, Abd., Pain, HTN, rash, rare Seizures, Steven-Johnston Syndrome, Hypomania, rare Suicidal ideation</td>
</tr>
<tr>
<td>serotonin, NE receptor antagonist, Alpha 2 antagonist, NaSSA (noradrenaline &amp; specific serotoninergic agent)</td>
<td>2. Mirtazapine</td>
<td>Remeron</td>
<td>boosts neurotransmitters 5HT &amp; NE, blocks alpha 2 adrenergic presynaptic receptor, increases 5HT neurotransmission, blocks 5HT2C, 5HT3, &amp; H1 receptors</td>
<td>*MDD PD, GAD, PTSD</td>
<td>15-45 mg at HS</td>
<td>Low WBC, photosensitivity, Avoid Alcohol, Risk2Benefits 4Children, Possible activating SEs, Suicidal ideation 4Children &amp; Adolescents, Avoid if known allergy-Remeron</td>
</tr>
<tr>
<td>serotonin receptor antagonist, SARI</td>
<td>3. Nefazodone</td>
<td>Dutononin, Serzone</td>
<td>blocks serotonin 2A receptors potently, blocks serotonin reuptake pump and NE reuptake pump</td>
<td>*Depression , PD, PTSD</td>
<td>300-600mg/d</td>
<td>Hepatotoxicity, HX Seizures, Fetal SS, Risk2Benefits 4Children, Possible activating SEs, Suicide, Cardiac Problems Elderly Hepatic &amp; Renal</td>
</tr>
<tr>
<td>serotonin receptor antagonist (S-MM), SARI</td>
<td>4. Trazodone</td>
<td>Oleptro Desyrel</td>
<td>blocks 2A receptors, blobs serotonin reuptake pump</td>
<td>*Depression , insomnia (primary/secondary), anxiety</td>
<td>150-600mg/d 150-375 mg/d ER</td>
<td>N/V, edema, blurred vision, dry mouth, constipation, dizziness, sedation, fatigue, HA, incoordination, tremor, syncope, rare rash, sinus bradycardia (long-term)</td>
</tr>
<tr>
<td>serotonin multimodal (S-MM), Multimodal antidepressant</td>
<td>5. Vortioxetine</td>
<td>Trintellix</td>
<td>increases release of several neurotransmitters: serotonin, NE, DA, Glatamate, Acetylcholine, Histamine</td>
<td>*MDD GAD, Cognitive S/S of Depression, Geriatric depression</td>
<td>5-20 mg/d</td>
<td>N/V, constipation, sexual dysfunction, rare seizures, rare mania &amp; SI</td>
</tr>
</tbody>
</table>

Table 1.1. Psychopharmacology for Atypical Antidepressants: Snap Shot
References


Mental Health America (2013). Basic facts about Depression. http://www.mentalhealthamerica.net/conditions/depression


