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Best Practice Management of Seasonal Affective Disorder When Considering Antidepressant Therapy, Light Therapy, and Cognitive Behavioral Therapy

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Abstract

Seasonal affective disorder is a recurrent depressive disorder that follows a seasonal pattern with treatment focused on antidepressant therapy, light therapy, and cognitive behavioral therapy (Thaler et al, 2011). The relevance of this paper is to examine the treatment options available for seasonal affective disorder and determine the best practice management for the patient. The case described is a 55 year old male patient with recurrent depression symptoms who was treated with antidepressant therapy with the consideration that this may be the best supported treatment option; however other viable options are available as well.

Literature review found that antidepressant therapy and light therapy had similar clinical significance as well as improved symptoms as compared to cognitive behavioral therapy. All treatment options have positive and negative aspects that would need to be discussed with the patient to determine a treatment option that is appropriate for the individual based on symptoms and outcomes desired. While isolated cognitive behavioral therapy demonstrated symptom relief; combination therapy was found to have superior outcomes and in certain areas access to therapy may be difficult. Antidepressant therapy offered improved functional capacity and symptom improvement, but had adverse effects such as agitation, sleep disturbance, and palpitations (Lam et al, 2006). Adherence to the daily use of light therapy, access to equipment, and cost of equipment were noted to be the biggest obstacles for light therapy (Thaler et al, 2011). Overall, seasonal affective disorder can cause disturbances in a patient's daily life and should be promptly recognized and treated in a patient centered approach.

Background

Seasonal affective disorder is a form of major depressive disorder that has both biologic and mood disturbances that occur during a particular time of the year or seasonally (Kurlansik & Ibay, 2012). The Diagnostic and Statistical Manual of Mental Disorder (DSM-5) uses major depressive disorder diagnostic criteria for diagnosing seasonal affective disorder with the specific criteria that this is a recurrent major depressive disorder that happens during a certain time of the year (American Psychiatric Association, 2013). An essential feature of seasonal affective disorder is an onset and remission pattern of symptoms. Onset of symptoms is usually in the fall or winter months with remission in the spring or summer months, but symptoms can occur during other months as well (American Psychiatric Association, 2013). These symptoms must have occurred over a two year period without any non-seasonal episodes during this period of time and seasonal symptoms need to outnumber non-seasonal symptoms over the person's lifetime (American Psychiatric Association, 2013).

The etiology and pathophysiology of seasonal affective disorder has been linked to biological mechanism changes in a person's circadian system as a chief cause (Ciarleglio, Resuehr & McMahon, 2011; Kurlansik & Ibay, 2012). There are other contributing factors including "retinal sensitivity to light, neurotransmitter dysfunction, genetic variation affecting the circadian rhythms, and serotonin levels" (Kurlansik & Ibay, 2012, p.1037). These disturbances may be noted in the fall and winter months due to the reduced sunlight or daylight hours (Ciarleglio, Resuehr & McMahon, 2011). The incidence of seasonal affective disorder may be as high as 10 percent of populations in northern latitude communities with one to five percent of the United States population being affected with symptoms occurring over forty percent of the year (Kurlansik & Ibay, 2012).

While seasonal affective disorder has periods of remission, it is still a serious mental health disorder and should be diagnosed and treated appropriately (Kurlansik & Ibay, 2012). Manifestations of this disorder can be depressed mood, loss of interest or pleasure in most or all activities, insomnia or hypersomnia, change in appetite or weight, psychomotor retardation or agitation, low energy, poor concentration, thoughts of worthlessness or guilt, and/or recurrent thoughts about death or suicide (American Psychiatric Association, 2013). These symptoms can be detrimental to the patient's quality of life affecting interactions with family, friends, and employment, thus they should be recognized and treated to decrease consequences (Kurlansik & Ibay, 2012).

The relevance of this paper is to examine the treatment options available for seasonal affective disorder and determine the best practice management looking at the literature available. While no one treatment option is ideal for all patients, it is important to be able to offer all the options to the patient and be aware of the remission of symptoms based on previous studies completed to help the patient choose the best option. Treatment options available include antidepressant therapy, light therapy, and cognitive behavioral therapy (Osborn, Raetz & Kost, 2014). Antidepressant treatment options include several second-generation antidepressants "including sertraline, fluoxetine, duloxetine, and escitalopram" as well as Buproprion XL for prevention of symptoms (Osborn, Raetz & Kost, 2014). Light therapy involves exposure to artificial light on a daily basis, usually 30 to 90 minutes a day with 6000 lux lights not ultraviolet in the morning hours (Osborn, Raetz & Kost, 2014). Cognitive behavioral therapy is mental health counseling for a determined amount of time although timing will need to be determined dependent on the severity of symptoms (Osborn, Raetz & Kost, 2014). The following case describes a patient diagnosed with seasonal affective disorder.

Case Report

Mark is a 55 year old male patient that presented to the clinic with complaints of fatigue for the last two months starting in December with an increase in symptoms one week prior to coming to the clinic. He denies any past medical history or past surgical history. Mark's daily medications include a multivitamin and Metamucil daily with no prescription medications. He denies medication, environmental, or latex allergies. He denies alcohol use, tobacco use, and drug use. He does report that he drinks two cups of coffee daily. Mark lives at home with his wife and works outside the home five days a week. During his clinic visit his blood pressure was 134/74, pulse was 68, respiratory rate was 20, and temperature was 98.3 which are all within normal limits.

During the initial interview with Mark he states that he is tired or fatigued on a daily basis. He states that he is able to sleep seven to eight hours a night without awaking but still feels tired in the morning like he has not slept all night. He is still able to work five days a week but does have daytime sleepiness. He has not fallen asleep during the day but he does think that this may be interfering with his work. Mark reports that he has lost interest in doing his normal activities and feels down because he is always fatigued. He also states that it has just been a long winter and if it would warm up he might feel better. Mark has lost ten pounds in the last two months due to a decrease in appetite and he reports difficulty concentrating on simple activities such as watching TV. He denies changes in his life such as financial problems, marital problems, or increase in stress. Mark reports that he had similar symptoms last winter but did not seek treatment.

A review of systems noted positive response to fatigue, change in activity, change in appetite, weight loss, and difficulty concentrating. Mark denies other constitutional symptoms

and has had no fever, chills, diaphoresis, or night sweats. He denies head, ears, eyes, nose, or throat concerns and had had no congestion, rhinorrhea, postnasal drip, ear pain, trouble swallowing, sore throat, photophobia, or change in vision. Mark denies respiratory or cardiovascular symptoms with no cough, shortness of breath, wheezing, chest tightness, chest pain, palpitation, or leg swelling. He denies gastrointestinal or genitourinary symptoms with no abdominal pain, nausea, vomiting, diarrhea, constipation, difficulty urinating, frequency, urgency, pain with urination, or burning with urination. Mark denies endocrine, hematologic, or neurological symptoms with no polydipsia, polyuria, polyphagia, heat intolerance, cold intolerance, bruising easily, bleeding easily, swollen lymph nodes, headache, dizziness, lightheadedness, or syncope. He denies psychiatric symptoms with no anxiousness, confusion, agitation, hallucination, suicidal thoughts, or suicidal plan.

Physical exam was completed and unremarkable. Mark was alert, oriented to person, place, and time, well-developed, well-nourished and in no distress while sitting on the exam table. His head is normocephalic and atraumatic with external ear symmetrical with no lesions or erythema, canal clear with no erythema or cerumen, tympanic membrane pearly grey with no perforations, bulging, or erythema, with light reflex noted and no hemotympanum. Mark's nose is straight, septum midline and no erythema or nasal drainage is noted. His mucous membranes are moist, dentition is without caries, oropharynx is clear and pink without lesions or exudate. His conjunctivae is an appropriate color for his race and EOM are smooth and coordinated with no strabismus, pupils are equal, round, and reactive to light with no erythema or drainage noted. Mark displays no tenderness with passive movement or palpation, no spinous process tenderness, muscular tenderness, and no rigidity noted. His neck is supple with no lymphadenopathy, trachea is midline, and thyroid is without nodules/masses. His heart has a normal rate, regular rhythm,

and audible S1 and S2. Pulses are palpable with no murmur, rubs, or gallops heard. His respirations effort is normal, lungs sounds clear, and equal breath sounds bilaterally with no respiratory distress, wheezes, rales, or rhonchi. Mark has appropriate strength for his age, his gait is steady and movements are coordinated. His skin is warm, dry, and pink with no rashes, swelling, or edema noted. Mark's mood appears mildly depressed with a normal affect, normal speech, and behavior.

Laboratory studies completed were comprehensive metabolic panel (CMP), complete blood count (CBC), and thyroid stimulating hormone (TSH) to rule out organic causes of the patient's symptoms including hypothyroidism, anemia, diabetes, or other electrolyte imbalances. Mark's CMP revealed a non-fasting glucose of 107, and elevated BUN of 23, with all other values within defined limits. His elevated glucose was not indicative of diabetes as this was not a fasting sample and elevated BUN is most likely related to a decrease in fluid intake associated with this decreased appetite. His CBC was within defined limits including a normal white blood cell count, hemoglobin, hematocrit, red blood cells, and platelets which rules out infection and anemia as a cause of Mark's symptoms. His TSH was within defined limits and rules out hypothyroidism.

A patient health questionnaire (PHQ-9) was completed by the patient and revealed a score of 12 with positive responses to "little interest or pleasure in doing things, feeling down, depressed, or hopeless, sleeping too much, little energy, poor appetite, and trouble concentrating on things," This score falls into the moderate depression range on the PHQ-9 (Kroenke & Spitzer, 2002). The PHQ-9 is a tool that is used to determine if a patient is suffering from depression, to determine their depression severity, proper management, and determine efficacy of treatment (Kroenke & Spitzer, 2002). The PHQ-9 questionnaire should be completed at

baseline and at regular intervals, usually within two weeks of initiating treatment and on an on-going basis (Kroenke & Spitzer, 2002). A screening score of 10 to 14 indicates moderate depression and a treatment plan should be considered which may include counseling, pharmacotherapy management, and follow-up (Kroenke & Spitzer, 2002). A suicide risk screening should also be completed, which is included in the PHQ-9 with the question "Do you have thoughts that you would be better off dead or of hurting yourself' (Kroenke & Spitzer, 2002) If there is a positive response to this question further questioning regarding suicidal ideation, suicidal intent, and homicidal thoughts/intent should be investigated. If the patient has suicidal intent or homicidal intent acute hospitalization may be necessary to prevent harm to self and/or others. This would require the intervention of a mental health professional with related referral.

With the symptoms that Mark is experiencing, his PHQ-9 score of 12, and a previous seasonal episode of feeling down, fatigued, and little interest in doing things, a diagnosis of seasonal affective disorder is determined and appropriate. Treatment options of antidepressant therapy, light therapy, and cognitive behavioral therapy were discussed with him. Mark had a number of questions as to what has been shown to be most effective at treating these symptoms, side effects associated with treatment options, and length of treatment needed. The treatment option that he chose was antidepressant therapy and Prozac (fluoxetine) 20 mg orally once daily was given. Mark was instructed to follow-up in the clinic in two weeks for re-evaluation of symptoms and effectiveness of the treatment prescribed.

This case report raised the interesting question of what is the best treatment option for seasonal affective disorder? When looking at antidepressant therapy, light therapy, and cognitive behavior therapy, is there one option that is superior over the others and gives the best symptom

relief to the patient? Other things to consider are the side effects and length of treatment needed for seasonal affective disorder, but the focus of this review was to determine the best practice management.

Literature Review

When looking for research to address the question of what is the best practice management for seasonal affective disorder when considering antidepressant therapy, light therapy, and cognitive behavioral therapy, the University of North Dakota's Harvey E. French Library of the Health Sciences was accessed. Within the Harvey E. French Library three databases were accessed to obtain information and they were PubMed, The Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Cochrane library. These searches focused on seasonal affective disorder and seasonal affective disorder treatment to find relevant information that pertained to the clinical question. These searches resulted in hundreds of articles that were reviewed and of them ten were selected for this literature review. Of these articles one was a Cochrane review, eight were randomized controlled trials, and one was a retrospective review. A research study comparing antidepressant therapy versus light therapy versus cognitive behavioral therapy was not found when conducting this review but there were comparisons of antidepressants versus light therapy and light therapy versus cognitive behavior therapy.

The Cochrane review focused on the use of antidepressants for seasonal affective disorder and included randomized controlled trials of second generation antidepressants as compared with other therapies as well as non-randomized studies to look at adverse effects (Thaler et al, 2011). This review found that there were a limited number of randomized control trials to compare and the only medication used was fluoxetine in these studies (Thaler et al,

2011). In the randomized control trials that were reviewed, fluoxetine had clinical significance when compared with a placebo (Thaler et al, 2011). Of the studies that compared fluoxetine with light therapy there was no clinical significance between fluoxetine and light therapy for improvement of symptoms with 66 out of 100 people in both groups reporting improvement (Thaler et al, 2011). In the studies reviewed that looked at side effects, 15 to 27% of people left due to side effects that may have been from the antidepressant therapy but it was not reported if this was compared with a placebo (Thaler et al, 2011). With light therapy, there may be an increased difficultly with access to equipment needed or cost of the equipment hindering use for some people (Thaler et al, 2011). Overall the authors found that they were unable to determine one superior therapy versus the other with the evidence provided (Thaler et al, 2011).

Modell et al (2005) and Partonen & Lonnqvist (1996) looked at the use of antidepressant therapy in the treatment of seasonal affective disorder. Partonen & Lonnqvist (1996) completed a double-blind randomized controlled trial with 183 patients completing a six week trial, comparing the effectiveness of moclobemide and fluoxetine. Both medications had equal clinical significance (64%) in the improvement of seasonal affective disorder. One limitation with this study is that there was not a placebo-controlled group to compare these results with (Partonen & Lonnqvist, 1996). One important factor noted in this study was the "health-related quality of life" was improved in the patients in both groups (Partonen & Lonnqvist, 1996, p.98). Buproprion XL was studied for improvement in seasonal affective disorder as well as prevention against reoccurrence and was found to "protect against reoccurrence of seasonal major depressive episodes, reducing their frequency by an average of 44%" as compared with a placebo (Modell et al, 2005, p.665). This review included three prospective, randomized, placebo-controlled trials with 1042 patients (Modell et al, 2005). The

take away message from this review was that there should be a consideration of antidepressant therapy before the onset of a reoccurrence of seasonal affective disorder to prevent major symptoms (Modell et al, 2005).

The Can-SAD study was a randomized controlled trial that compared the effectiveness of light therapy and fluoxetine in patients with seasonal affective disorder, which had 96 patients in the study (Lam et al, 2006). The study found that there was no significant difference in clinical response or remission rates between light therapy and fluoxetine treatment (Lam et al, 2006). Light therapy resulted in a greater improvement of symptoms after the first week of treatment as compared with fluoxetine, but over the full course of the study treatments were similar. One interesting point noted in this study is that "light therapy has a behavioral component in that patients must wake up and spend 30 minutes in quiet activity while receiving light therapy" which may account for the improvement in symptoms (Lam et al, 2006, p. 810). Antidepressant therapy had a higher rate of adverse effects with symptoms of agitation, sleep disturbance, and palpitations (Lam et al, 2006).

Two randomized controlled trials with 157 patients were reviewed, which compared the use of cognitive behavioral therapy with light therapy for seasonal affective disorder (Rohan et al, 2013; Rohan et al, 2007). In these studies it was found that cognitive behavioral therapy, light therapy, or the combination of the two improved depression severity when compared with minimal contact/delayed light therapy (Rohan et al, 2013; Rohan et al, 2007). Combination therapy with the use of cognitive behavior therapy with light therapy had the most clinical remission with 73% in comparison with the control group at 20% (Rohan et al, 2013; Rohan et al, 2007). In these studies is was noted that the biggest disadvantage with light therapy was the considerable amount of time that is required (90 minutes a day) with this treatment regimen

(Rohan et al, 2013; Rohan et al, 2007). It may be difficult for patient's to adhere to this treatment regimen starting at the onset of symptoms through the spring time remission (Rohan et al, 2013; Rohan et al, 2007).

Fleer, Schroevers, Panjer, Geerts & Meesters (2014) reported a small randomized controlled pilot study with 46 patients, which looked at the benefit of mindfulness-based cognitive therapy for the prevention of seasonal affective disorder. This study found that this method was not effective at preventing seasonal affective disorder reoccurrences when administered during a symptom free period but further research is needed for the effectiveness of mindfulness-based cognitive therapy at the first sign of symptoms as a valid treatment option (Fleer et al, 2014). Another important thing noted in the study is that people with seasonal affective disorder experience cognitive, behavioral, and physiological changes during the winter months and mindfulness-based cognitive therapy may not affect the physiological changes that occur (Fleer et al, 2014).

Three studies with a total of 180 patients were reviewed that looked at the improvement of seasonal affective disorder through the use of light therapy and all of these studies found that light therapy was an effective treatment for seasonal affective disorder (Privitera, Moynihan, Tang & Khan, 2010; Rastad, Ulfberg & Lindberg, 2008; Reeves et al, 2012). Light therapy was found to reduce winter depressive symptoms and can be a useful treatment in combination with other therapies or alone (Privitera, Moynihan, Tang & Khan, 2010; Rastad, Ulfberg & Lindberg, 2008; Reeves et al, 2012). Light therapy demonstrated a rapid improvement of symptoms including improvement of feelings of hopelessness associated with depression with one study noting that after seven days of treatment there was a 46.9% remission rate (Privitera, Moynihan, Tang & Khan, 2010; Rastad, Ulfberg & Lindberg, 2008; Reeves et al, 2012).

When looking at the literature collectively, antidepressant therapy, light therapy, and cognitive behavior therapy appear to have similar efficacy and continue to be the best options for management of seasonal affective disorder. All of these options have aspects to them that would need to be explained to the patient before treatment is started. Antidepressants have a higher rate of adverse effects and resolution of symptoms may take longer when compared with light therapy (Thaler et al, 2011). While light therapy has a rapid onset of resolution of symptoms, adherence to adequate treatment has been noted to be a problem (Privitera, Moynihan, Tang & Khan, 2010; Rohan et al, 2007). Cognitive behavioral therapy is a treatment option for seasonal affective disorder although the greatest benefit in this review was noted when the cognitive behavioral therapy was used as a combination therapy along with light therapy (Rohan et all, 2007). Depression symptoms, depression severity, and patient preference will all need to be taken into account when treating seasonal affective disorder.

Learning Points

Seasonal affective disorder can be difficult to recognize and diagnose because diagnosis is made based on a history of recurrent symptoms that occur during fall or winter months and improve usually without treatment in spring and summer months (Modell et al, 2005). Diagnosis is also dependent on self-reported symptoms and requires a proper clinical interview that asks probing questions related to this condition (Modell et al, 2005) People may not seek treatment due to the cyclic nature of symptoms but left untreated seasonal affective disorder can cause significant impairment of daily functions in a person's life (Modell et al, 2005).

The primary goal of treatment is to reduce the severity of symptoms and restore functional capacity so that a person is able to maintain function and relationships within their lives (Osborn, Raetz & Kost, 2014). This literature reviewed found that antidepressant therapy,

light therapy, and cognitive behavioral therapy are all appropriate treatment options for seasonal affective disorder (Lam et al, 2006; Modell et al, 2005; Partonen & Lonnqvist, 1996; Privitera et al, 2010; Rastad et al, 2008; Reeves et al, 2012; Rohan et al, 2013; Rohan et al, 2007; Thaler et al, 2011). Treatment should be based on patient preference and symptom outcomes desired. Long-term monitoring and management is usually required to maintain symptom relief as well as observation for return of symptoms with initiation of treatment.

With all treatment options offering symptom improvement, looking at the negative aspects to determine which therapy would be appropriate for each individual patient may be needed. Adverse effects of agitation, sleep disturbance, and palpations were noted with antidepressant therapy and should be considered with this treatment option (Lam et al, 2006). Adherence to light therapy due to the considerable daily time commitment, cost of equipment, or access to equipment needed for therapy are obstacles noted (Thaler et al, 2011). Access to providers that preform cognitive behavioral therapy in rural areas and insurance coverage of therapy can be considered barriers to care.

Conclusion

While this literature review found that all three treatments presented have similar clinical significance and resolution of symptoms. The patient's preference of treatment, side effects associated with treatment, and barriers to treatment should be considered. The best treatment will be the one the patient is able to adhere to while giving symptom relief and returning quality of life to pre-functional capacity.

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