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ANOREXIA NERVOSA: A CASE REPORT

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ABSTRACT

Anorexia nervosa is an eating disorder with an unclear pathogenesis and a difficult treatment course. In this case report, we present the case of a 16-year-old female patient with anorexia nervosa and bradycardia with a challenging hospital course. We then discuss the epidemiology for anorexia nervosa, the symptoms and comorbid medical complications often seen, and finally what ongoing research has been done on this disorder. The goal of this study is to highlight the importance in gaining better understanding of anorexia nervosa to promote development of better ways to treat this patient population.

INTRODUCTION

Anorexia nervosa is an eating disorder that is very difficult to treat due to few studies regarding a clear treatment course. The lifetime prevalence of anorexia nervosa in women is 0.9 percent compared to 0.3 percent in men.[4] Limiting the scope to adolescents (13-18 years), the prevalence is 0.3 percent, with the prevalence for females and males being identical.[3] Anorexia nervosa can be classified as either a restricting or binging and purging type. Here, we present a case of an adolescent female with restricting type anorexia nervosa. She was admitted into the hospital due to bradycardia after fleeing an eating disorder clinic known as Mirasol. She presents with a previous psychiatric history of depression and anxiety. This patient's difficult hospital course is discussed, as well as how we might better serve these patients by addressing their psychiatric and nutritional requirements during their hospital stay.

CASE PRESENTATION

This 16-year-old female was originally diagnosed with anorexia nervosa two years prior and has an extensive history of unsuccessful hospitalizations. Her most successful treatment took place in May of 2015 when her weight was restored to 105 lbs at a residential facility. However, she relapsed in December of 2015. Her past medical history is significant for anxiety, depression and a history of at least four suicide attempts by attempting to overdose on various medications.

We were consulted as the pediatric psychiatry consult-liaison service to evaluate for appropriateness for admission to inpatient/residential treatment facility. When we met with this patient she made poor eye contact and insisted on standing during the entire duration of the interview. She stated that she ran away 5 days after being at Mirasol because she felt "unsafe", although she denied any specific safety concerns. Ms. S stated that she had a happy childhood and got "good grades" in school, although she had to be removed from school due to her medical condition. Ms. S became guarded when we tried to talk to her about details about the relationships in her life. She also became frustrated when trying to discuss aspects of herself and her body image. She repeated "I don't know" and turned away when these questions were asked. The patient's father had flown in from their home in Oregon that morning. He stated that they were awaiting placement at another eating disorder treatment center since the treatment center that she left earlier that day, Mirasol, would not take her back.

HOSPITAL COURSE

Throughout her hospital stay with us, the patient's parents tried to place her in multiple treatment centers. However, due to her flight risk, she was rejected by many of them until the end of her fourth week. We visited her several times and she was still guarded, but she did discuss her enjoyment for dancing, reading books, drawing and doing outdoor activities. She also voiced her concerns about her tremendous anxiety during her hospital stay. She felt "cooped up" and kept stating that she wanted to go home. She had been very reluctant to gain any weight and had many episodes of acting out including drinking water out of the sink, trying to run away from her room, and exercising constantly during her interviews. Due to her lack of weight gain an NG tube was placed, but was unsuccessful because she bit through it. She stated that the NG tube gave her great anxiety because she had a bad experience with a NG tube in the past. We had meetings with the Pediatric team to decide the best treatment plan during her hospital stay, since she was continuing to lose weight. The goal of these meetings were to get everybody on board to have consistent rules regarding her stay. These included giving her rewards in the terms of art supplies or a certain amount of minutes on the computer for successfully eating a meal. Attempting to treat Ms. S portrayed the difficulty of working with patients with an eating disorder and the lack of knowledge regarding treatment of patients with anorexia nervosa.

DISCUSSION

Given our patient's low BMI, bradycardia, and refusal to gain weight, a diagnosis of anorexia nervosa is most likely. However, due to her comorbid anxiety and depression, it is important to consider she may be underweight due to appetite loss secondary to her anxiety and depression. Other possible diagnoses include bulimia, hyperthyroidism, brain tumor, Celiac disease, and substance abuse.

To diagnose a patient with anorexia nervosa the DSM-5 requires the patient to have a low body weight due a restriction of energy intake, an "intense fear of gaining weight or becoming fat", and a distorted perception of weight or denial of the seriousness that anorexia nervosa has on their medical health.[7] Ms. S meets all the diagnostic requirements for anorexia nervosa. Although the pathogenesis of this disorder is not known, genetic and or environmental factors may be involved since this disorder is diagnosed in a higher percentage in some families than others. However, no single genetic cause has been found. Additionally, some MRI studies have suggested some abnormal functions of certain brain areas in patients with anorexia. For example, the corticolimbic circuits had diminished blood flow when eating sucrose compared to controls.[5] Another MRI study conducted showed that patients diagnosed with anorexia nervosa had more activity in the dorsal striatum (involved in habitual behavior) compared to the control group.[6] In each case, it is unclear if the disorder caused these changes or these changes lead to a higher likelihood of this disorder.

There are many medical complications that can occur due to a patient remaining in a state of starvation. Ms. S had bradycardia and constipation, which are two of these complications. Bradycardia is seen in approximately 41 percent of patients diagnosed with anorexia and this usually resolves with weight gain.[1] Other possible complications include mitral valve prolapse, pericardial effusion, osteoporosis, gastroparesis and refeeding syndrome.[1] Refeeding syndrome is a particularly lethal complication that can occur when a patient attempts to eat a normal amount of calories after going through a phase of starvation. This can cause a fatal shift of electrolytes and fluids, so feeding has to be done gradually to allow the body to gain homeostasis. These medical complications need to be treated appropriately while also treating the patient's underlying anorexia nervosa. A review of 119 case series showed a 5 percent mortality rate for patients diagnosed with anorexia nervosa.[2] Of the patients who survive, less than one half fully recover, about 30 percent improve and 20 percent remain chronically ill.[3]

Treating patients with anorexia nervosa has proven to be a very difficult task and there is little literature on what treatment process works best for these patients. The first-line treatment is nutritional rehabilitation with psychotherapy. Restoring a healthy body weight will also help treat the medical complications discussed previously. A one-year prospective observational study with 90 female patients showed that at one year, the mean weight gain was higher for patients who received various treatment modalities along with nutritional rehabilitation compared to a control group (9-10 kg compared to 3kg).[8] A few studies have showed that there is a lower risk of relapse among patients who are closer to their ideal body weight when discharged.9 This portrays the importance of long-term behavioral reinforcements while going through nutritional rehabilitation to maintain an ideal body weight. Ms. S was non-compliant with nutritional rehabilitation during her hospital stay. She refused to eat most of her meals and she lost weight during hospitalization. This is not an uncommon pattern in patients with this disorder. So although nutritional rehabilitation is extremely important, it is obvious that patients also require therapy if they are going to maintain their weight.

Depending on the severity of the patient's disease, he or she may be treated in an inpatient or outpatient setting. If the patient's BMI is greater than 15 and the complications of the disease are being treated with weight gain than an outpatient setting is suggested.[9] If the patient has unstable vital signs, cardiac dysrhythmia, BMI less than 15, refeeding syndrome or poor response to outpatient treatment the patient should be hospitalized.[9] Ms. S was hospitalized due to her BMI being less than 15 and her unstable vital signs.

The most important aspect to treating these patients is interdisciplinary care. This includes a mental health clinician, registered dietitian and general medical clinician. There is no one perfect treatment for anorexia nervosa that has been found, so it is important to individualize each treatment course to best fit the patient. For Ms. S (who has comorbid anxiety and depression), a mental health clinician is going to be vital for her treatment. Psychotherapy will also be important in Ms. S's treatment since it has worked for her in the past and research has shown that therapy is vital for recovery. The therapies that are used on patients with anorexia nervosa include cognitive-behavioral therapy, psychodynamic psychotherapy, specialist supportive clinical management, motivational interviewing, family therapy and cognitive remediation therapy. No studies have proven that one therapy is better than any other in adults; however, research has shown that family therapy should be prioritized for adolescent patients.[10]

Pharmacotherapy is not currently used as a primary treatment for anorexia nervosa. The only time pharmacotherapy is attempted for weight gain includes patients who do not gain weight with nutritional rehabilitation and psychotherapy.[9] The pharmacotherapy that can be attempted includes antipsychotics and antidepressants, although they are not commonly used due to the other unwanted side effects and lack of evidence of weight gain.[9] Ms. S is currently on sertraline for her comorbid depression and this is a good pharmacological choice due the side effect of weight gain. It is clear that patients with anorexia nervosa need an individualized treatment course, but there is still a scarcity of well-controlled studies for individual treatments and their specific outcomes in patients with anorexia nervosa. Ms. S is a great example of a patient who has attempted many different treatment modalities, but has relapsed and continues to struggle with this disorder.

CONCLUSION

Patients with anorexia nervosa have various medical comorbidities related to their low body weight. While a multitude of treatment measures are yet to be shown effective long term, the awareness of the psychiatric and medical complications of patients with anorexia nervosa has increased dramatically in recent years. Additional trials are needed to clarify what treatment modality works best for patients with anorexia nervosa and what we as providers can do to best aid in their recovery in an inpatient or outpatient setting.

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