Case Report

Atypical presentation of anorexia nervosa pediatric patient: A multidisciplinary approach to diagnosis and management

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Abstract

This case report describes the complex presentation, diagnostic problems, and multidisciplinary therapy of a 13-year-old Syrian girl with an unusual form of anorexia nervosa (AN). The goal is to improve understanding of AN's varied clinical spectrum while emphasizing the significance of a complete diagnostic approach and multidisciplinary therapy in juvenile cases. The patient reported considerable weight loss, amenorrhea, and physical indications of starvation over the previous two months. Notably, she did not exhibit the typical psychological symptoms linked with AN. Extensive examinations, including gastrointestinal, endocrinology, rheumatology, psychology, psychiatry, and neurology, were carried out to determine the underlying reason and develop a personalized care plan. The diagnostic process found unexpected traits that challenged established AN criteria. A multidisciplinary approach aided incorrect diagnosis and guided a treatment strategy that included nutritional rehabilitation, psychosocial support, and medical measures. The patient's outcomes included weight gain, menstruation resumption, and hormonal and physical parameter normalization. This instance contributes to our growing understanding of AN as a group of illnesses with a variety of clinical manifestations. The patient's atypical traits highlight the necessity for flexible diagnostic criteria and personalized, multidisciplinary care. The favorable outcomes demonstrate the possibility for positive outcomes with a complete strategy, paving the door for further investigation of diagnostic frameworks and treatment techniques in pediatric AN cases.

Keywords: Anorexia nervosa, atypical presentation, diagnosis, management, pediatric patient

Background

Eating disorders, notably anorexia nervosa (AN), are the result of a complex interaction of biological, psychological, and social factors that have a substantial impact on both physical and mental health.[1] AN is distinguished by a constant pursuit of thinness, self-imposed stringent food restrictions, and an extreme dread of gaining weight.[2] Although AN is more typically diagnosed in adolescents and young adults, it can affect people of any age, and its frequency has risen in recent years.[1,3]

The global prevalence of AN varies, with estimates ranging from 0.3% to 1% of the population, with females having a higher frequency than males.[2,4] While AN is most common in adolescents, it can also affect pre-pubertal children and adults. Cultural and socioeconomic variables influence differences in the frequency of AN, with Western countries promoting thinness as an ideal having greater rates of the illness.[5] The causes of AN are multifaceted, combining genetic, neurological, psychological, and environmental variables. Genetic studies indicate a hereditary

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Received: 27-05-2024 **Revised:** 09-07-2024
Accepted: 15-07-2024 **Published:** 13-01-2025

Access this article online

Quick Response Code:

Website: http://journals.lww.com/JFMPC

DOI: 10.4103/jfmpc.jfmpc_921_24

How to cite this article: Al Masseri Z, Aljawad A, Alkashi Z, Albaik N. Atypical presentation of anorexia nervosa pediatric patient: A multidisciplinary approach to diagnosis and management. J Family Med Prim Care 2025;14:473-7.

component, with a higher risk of AN among people who have a family history of eating disorders, psychiatric conditions, or mood problems.[1,6] Neurological factors influence the regulation of neurotransmitters such as serotonin and dopamine, contributing to mood disorders and altered reward pathways.[6]

Psychological variables play an important role in the development and maintenance of AN. Individuals with AN frequently demonstrate perfectionistic tendencies, physical dissatisfaction, low self-esteem, and a fixation with weight and body shape.[2] The sociocultural emphasis on thinness, reinforced by media portrayals and societal standards, adds to the psychological pressures that might cause or worsen AN.[5]

The clinical presentation of AN varies, making early detection and diagnosis difficult. Significant weight loss, amenorrhea in females, and physical symptoms of starvation are also common occurrences.[7] However, atypical manifestations, such as normal weight or overweight people engaging in excessive dieting habits, are increasingly being noticed.[7] Common psychological aspects include distorted body image, fear of weight gain, and prolonged dietary restriction.[8]

Diagnostic difficulties develop when patients do not exhibit the normal traits associated with AN. Individuals who maintain a normal body weight, engage in excessive activity or have minor psychiatric problems may have atypical presentations. Recognizing these variances is critical for timely intervention and effective management.[9,10]

AN is connected with a variety of medical and psychiatric issues that, if not treated, can have serious implications. Medical problems can include electrolyte imbalances, cardiac arrhythmias, osteoporosis, and endocrine dysfunction.[3] Psychiatric comorbidities, such as depression, anxiety disorders, and obsessive-compulsive tendencies, are frequent and add to the complexity of managing AN.[5]

The prognosis for AN varies and is influenced by factors such as sickness length, nutritional severity, and medical consequences.[1] Early intervention and a multidisciplinary strategy that includes medical, dietary, and psychological components increase the likelihood of recovery. However, AN can have a chronic history of relapses and remissions, emphasizing the significance of long-term monitoring and continuous care.[1,6]

Understanding the various aspects of AN, from its complex origin to its numerous clinical manifestations and associated problems, is critical for healthcare professionals involved in the diagnosis and management of this difficult condition. This case study attempts to add to the expanding corpus of literature on AN.

Case Report

A 13-year-old Syrian girl who had been living in Saudi Arabia for nine years presented to the Emergency Room with a major complaint of losing her appetite and weight during the previous two months. Previously healthy, she reported a gradual onset of symptoms, beginning with a decreased interest in eating and progressing to skipping meals. During this period, the family reported a significant weight loss of around 10 kg. Furthermore, the patient developed amenorrhea, hair loss, dry skin, and increased weariness, which had a significant impact on her school attendance.

Clinical History

The patient had no known medical conditions, allergies, or current drug or supplement use. She had received all of her vaccines and had a full-term normal vaginal delivery with an uneventful postnatal period. The family history found no consanguinity between parents, and she was the fourth of five girls and two boys. The patient excelled intellectually, achieved exceptional results, and had no history of bullying at school or online. There was no family history of epilepsy, developmental delays, or genetic disorders.

Physical Examination

Upon presentation, the patient had bradycardia (heart rate: 55 bpm), emaciation, and generalized scaly dry skin on the extensor surfaces of the upper and lower limbs. Despite her massive weight loss, she showed no indications of pallor ness jaundice. Physical examination indicated thin hair, muscle atrophy in the extremities, and loss of cheek fat. No symptoms of self-harm, mouth ulcers, or lymphadenopathy were found. Abdominal examination revealed a soft and loose abdomen with no organomegaly. Overall, the patient presented as despondent, with little eye contact.

Except for bradycardia, all vital signs were within normal norms. Her weight was at the second percentile (Z-score = −2), her height was at the sixteenth percentile (Z-score = −1), and her BMI was 15.2 (Z-score = −2.1). These findings suggested severe malnutrition. The initial evaluation revealed a complex clinical picture with both physical and psychological symptoms.

Investigations

Extensive investigations were carried out to determine the underlying cause of the patient's symptoms. Laboratory tests, such as a complete blood count, kidney and liver function tests, inflammatory markers, and tumor markers (alpha-fetoprotein, CA 19.9, CEA), were within normal ranges or indicated severe malnutrition. Autoimmune markers (ANA, anti-proteinase 3, anti-myeloperoxidase, anti-DNA antibodies, anti-endomysial antibodies, and anti-tissue transglutaminase) tested negative.

Mineral levels, hormonal profiles, and pancreatic enzymes were evaluated. Specifically, she had low levels of 25OH vitamin D, estradiol, and thyroid hormones. An abdominal ultrasound found no hepatomegaly or splenomegaly, but it did identify gall bladder sludge. A CT scan of the abdomen and chest, as well as

an echocardiogram, were used to rule out gastrointestinal masses, inflammatory bowel disease, and cardiac irregularities.

Multidisciplinary Approach

Because of the complexities of her presentation, a multidisciplinary team was involved in her treatment. Gastroenterology consultation was sought to investigate organic causes such as Crohn's disease, celiac disease, cancer, and endocrinopathy. Endocrinology consultation revealed acute hunger with functional hypogonadism, raising concerns regarding AN. Rheumatology consultation determined that it was unlikely to be a rheumatic etiology, but suggested more autoimmune testing. Psychology and psychiatry assessed her twice and determined that she did not fit the standard criteria for AN.

Admission and Management

The patient was admitted to the pediatric medical ward for additional evaluation and treatment. To address severe malnutrition, doctors recommended nasogastric tube feeding with a polymeric formula. The goal was to supply 50% of daily dietary requirements at first, then gradually increase to meet the target. Daily electrolyte monitoring was started for the first three days since the patient was at risk of refeeding syndrome, and a CT scan of the abdomen and chest was ordered to rule out gastrointestinal masses, inflammatory bowel disease, and mediastinal masses. To rule out organic causes such as cancer and inflammatory bowel disease.

The endocrinology experts suggested a brain MRI to check for hypothalamic dysfunction. The brain MRI revealed widespread atrophic alterations in the infra and supratentorial compartments, which were not predicted given the patient's age and could be linked to malnutrition [Figure 1]. Despite concerns from other disciplines, the psychology and psychiatry departments determined that the patient did not fit the criteria for AN.

Further Hospital Course

During her 11-day hospital stay, her nutritional rehabilitation included nasogastric tube feeding with a polymeric formula, which was gradually increased to 60–70 Kcal/kg/day, with the introduction of mouth eating as tolerated. In the second week, the feeding mode switched from continuous to bolus, and oral feeding began. After three weeks, she was able to eat well and the nasogastric tube was removed. She gained two pounds during her hospitalization and was discharged on a high-calorie formula and close monitoring.

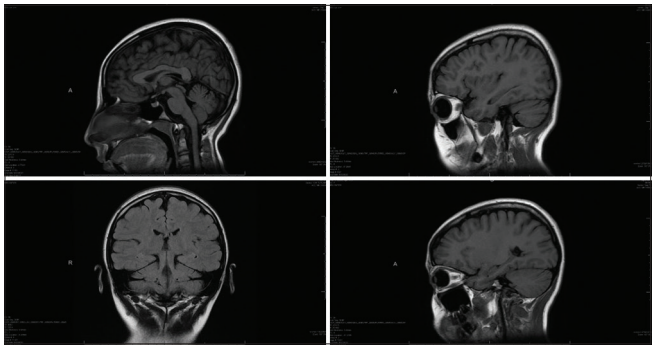

Figure 1: Brain MRI showing global atrophic changes

Outpatient Follow-up

In the outpatient setting, her attitude, eating, and activity improved significantly. The high-calorie formula was removed, and she resumed menstruation. A physical examination indicated a well-built and engaging patient. Growth chart measurements showed a weight of 58 kilos at the 50th percentile and a height of 157 cm at the >25th percentile.

Follow-up studies, which included hormone profiles, abdominal ultrasound, and brain MRI, revealed normalization of previously aberrant findings. The pericardial effusion had decreased, according to an echocardiography follow-up. The brain MRI follow-up revealed interval resolution of the global atrophic alterations identified in the prior exam [Figure 2]. The given case exemplifies the difficulties in diagnosing and controlling AN in adolescents, particularly when unusual manifestations emerge. A comprehensive and interdisciplinary strategy encompassing gastrointestinal, endocrinology, rheumatology, psychology, psychiatry, and neurology was critical for accurately diagnosing and managing this difficult case. Early detection, nutritional rehabilitation, and continued follow-up are critical for the successful treatment of AN in young patients.

Discussion

The presented case of a 13-year-old girl with an atypical presentation of AN, encompasses the diagnostic challenges, multidisciplinary management, and the outcomes observed. The atypical features in this case, including the absence of psychological symptoms classically associated with AN, underscore the importance of a nuanced approach to diagnosis and the need for a multidisciplinary team in managing complex pediatric cases.[10]

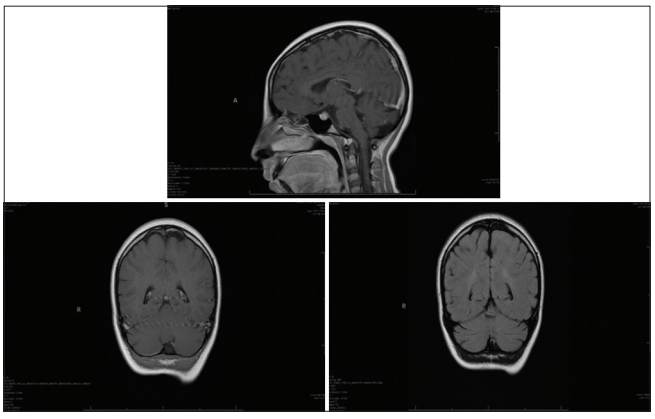

Figure 2: Follow-up brain MRI showing interval resolution of previous findings

The diagnostic process in this case was complicated, owing to the lack of overt psychosocial symptoms often reported in AN.[11] While she had severe weight loss, amenorrhea, and clinical symptoms of malnutrition, her first presentation did not include the typical distorted body image, fear of weight increase, or purging behaviors. This emphasizes the variety of presentations within the AN spectrum, as well as the importance of healthcare practitioners recognizing unusual cases to facilitate early management.[11,12]

When compared to the current literature, this example is consistent with recent discoveries stressing the variability of AN presentations, calling into question the traditional assumption that AN is primarily defined by psychological characteristics.[1] Numerous investigations have described atypical instances, such as normal-weight or overweight people engaged in the excessive activity, emphasizing the significance of broadening diagnostic criteria to capture the variety of clinical symptoms.[13-16]

The multidisciplinary strategy used in this case was critical in addressing the complexity of her presentation. The multidisciplinary team, including gastrointestinal, endocrinology, rheumatology, psychology, psychiatry, and neurology, conducted a thorough study to rule out organic causes and assess her physical and mental health. The combination of various specialists resulted in a precise diagnosis and a specific management approach.[1,6,7]

When comparing the management of atypical AN cases in the literature, it becomes clear that multidisciplinary teams are becoming increasingly important. Studies highlight the importance of nutritional rehabilitation, psychological support, and pharmacological interventions in attaining beneficial results.[13,15] The example is consistent with these ideas since nutritional rehabilitation via nasogastric tube feeding, psychological evaluation, and close monitoring resulted in considerable improvements in her general health.[3,8,10]

The excellent outcomes seen in this case, such as weight gain, return of menstruation, and treatment of physical and hormonal anomalies, demonstrate the success of the comprehensive strategy.[1] Follow-up studies, such as hormonal profiles, abdominal ultrasound, and brain MRI, revealed that previously aberrant findings had been normalized. These findings emphasize the need for early detection and intervention, as well as continued support and follow-up.[10]

When her findings are compared to the literature on atypical AN cases, a general pattern emerges. Research consistently shows that a personalized approach, comprising nutritional rehabilitation, psychological therapy, and medical monitoring, leads to excellent outcomes.[10,13,15] Long-term follow-up is emphasized as vital, in line with the continued care offered to the patient in the outpatient context.[10]

Despite the favorable outcome in this situation, it is critical to recognize some limitations. The lack of a definite psychological diagnosis, as well as the atypical presentation of physical symptoms, call into question this case's classification within the current AN diagnostic paradigm.[10] More study is needed to better understand the variety of AN presentations, improve diagnostic criteria, and adjust treatment methods to distinct phenotypes.

Conclusion

The described case highlights the complexities of detecting and managing atypical AN manifestations in teenagers. This case highlights the developing understanding of AN as a spectrum of illnesses with varied clinical presentations by comparing and contrasting it to the previous literature. The multidisciplinary strategy used in this case is consistent with current findings calling for comprehensive, tailored therapy to improve outcomes in pediatric AN patients. The debate encourages additional examination of diagnostic criteria and treatment strategies to account for the heterogeneity observed in clinical presentations, ensuring that no cases, particularly those with atypical symptoms, are ignored or undertreated.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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