Received: 18 February 2025 | Accepted: 23 March 2025

DOI: 10.1002/pcn5.70097

PCN Reports
Psychiatry and Clinical Neurosciences
Open Access

CASE REPORT

Anorexia nervosa in a child with cerebral palsy

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Funding information
None

Abstract

Background: There have been no reports of children with cerebral palsy (CP) developing anorexia nervosa (AN). This report presents a 13-year-old girl with CP who was hospitalized in a state of severe underweight and impaired consciousness, and was subsequently diagnosed and treated for AN.

Case Presentation: The patient is a 13-year-old girl diagnosed with CP, who relied on a wheelchair for mobility. Her weight consistently remained at −2 standard deviations. She began restricting her food intake after comparing her body to her sister's and receiving comments from caregivers about her weight. Consequently, her body mass index dropped to 8.2, and when admitted, she showed impaired consciousness. After intensive care treatment, she was hospitalized in the psychiatric ward for about 6 months before discharge. Despite extensive rehabilitation, her physical abilities at discharge did not return to preillness levels.

Conclusion: This case indicates that diagnosing and assessing AN in children with CP can be particularly challenging. Children with CP who develop AN are prone to rapid progression to severe physical conditions; therefore, early consultation with a specialist is strongly recommended.

KEYWORDS

anorexia nervosa, children, cerebral palsy, eating disorder, diagnosis

BACKGROUND

Anorexia nervosa (AN) is widely recognized as a life-threatening disorder characterized by severe underweight due to excessive dietary restriction and distorted perceptions of body shape and weight. However, little is known about the diagnosis, assessment, and clinical course of AN in children with cerebral palsy (CP). This case suggests the potential challenges involved in diagnosing and evaluating AN in individuals with CP. Furthermore, it indicates that malnutrition in these cases may increase physical health risks, emphasizing the importance of early referral when restrictive eating disorders are suspected. This report is the first to address the challenges of diagnosing and evaluating AN in patients with CP, proposing the need for prompt referral to specialists.

CASE PRESENTATION

The patient was a 13-year-old girl. She is the fourth of four siblings, including the second-born twin. Her CP impacts muscle movement and limb coordination, necessitating the use of a wheelchair for mobility. The wechsler intelligence scale for children-fifth edition assessment yielded a Full-Scale IQ of 59, which is indicative of mild intellectual disability. Her weight was consistently around

−2 standard deviation for her age, with a preillness weight of 31.0 kg. She expressed concerns about gaining weight, especially in comparison to her twin sister, and began restricting her food intake. During the summer of X-1, as she became increasingly conscious of her body shape, her food restrictions escalated. Remarks from caregivers about her weight during transfers reinforced her feelings of body dissatisfaction. By the fall, she started engaging in excessive physical activity while in her wheelchair. By January of X year, she was unable to support her neck independently. Additionally, her ability to chew and swallow declined, significantly limiting the types of foods she could consume. By February, her capacity to chew and swallow had worsened, leaving her unable to eat most solid foods, regardless of her intentions. After consulting with a local pediatrician, she was advised to eat what she could manage and was placed under observation. Despite this, her weight continued to decline. She was referred to our department in March of X year for further evaluation and treatment.

At her initial visit, she presented with a severe underweight status: height 143.5 cm, weight 16.9 kg, and body mass index (BMI) 8.2. We carefully conducted a thorough medical history assessment, including the family, and diagnosed the patient with AN restricting type. She could not move on her own and showed poor responsiveness, raising concerns about impaired consciousness primarily due to hypoglycemia and dehydration. She was immediately admitted to the intensive care unit for urgent physical stabilization. In the intensive care unit, enteral nutrition was initiated at 200 kcal per day and gradually increased by 200 kcal per day, alongside electrolyte correction and other treatments. Physical rehabilitation was also initiated simultaneously. After increasing the enteral nutrition to 900 kcal per day and confirming physical stability, the patient was transferred to the psychiatric ward on day 10 of hospitalization. Despite this, she could not consume meals orally and required enteral nutrition, which was increased to 2340 kcal per day. By approximately day 35, oral intake gradually improved. However, as oral intake increased, she expressed feelings of guilt about eating, fear of gaining weight, and a strong desire to remain thin. Eventually, she was able to maintain a consistent oral intake of 2300 kcal per day. On the physical side, rehabilitation helped her regain the ability to perform basic activities, such as sitting up and practicing assisted walking. However, her physical condition did not fully recover to its preillness state. Her weight improved to 37.8 kg (BMI 18.3), and she was discharged approximately 6 months later.

DISCUSSION

This case indicates that diagnosing and assessing AN in children with CP can be particularly challenging. Children with CP often display unique characteristics regarding body weight and eating behaviors, which may be underestimated or overlooked. However, when children with CP develop AN and face progressive weight loss, they may encounter a higher risk of severe physical complications compared to typically developing children, therefore it is advisable to refer them to a specialist when an eating disorder with weight loss is suspected in children with CP. To our knowledge, no previous reports have tackled the challenges of diagnosing and assessing AN in the context of CP, making this case the first to highlight such difficulties.

The process of diagnosing AN in children with CP is particularly demanding. According to the diagnostic and statistical manual of mental disorders, fifth edition, text revision diagnostic criteria, AN is characterized by significantly low body weight due to restrictive eating, an intense fear of gaining weight or becoming fat, abnormal eating behaviors, and distorted perceptions of body weight or shape. Children with CP present unique challenges regarding weight and growth variability, feeding and nutritional difficulties, and communication barriers. First, children with CP exhibit significant variation in weight and growth rates. The severity of functional impairment differs among individuals with CP, and Steven et al.[1] reported that body weight was consistently lower than that of the general population in a study of CP patients aged 2–20 years. Furthermore, the greater the level of impairment, the larger the weight discrepancy.[1] When significant motor function or feeding difficulties are present, the divergence from standard growth charts becomes evident, making it challenging to assess growth using conventional growth curves.[1] This increases the likelihood that insufficient weight gain, relative to growth expectations, may go unnoticed. Second, feeding and nutritional issues are common among children with CP, with an estimated prevalence of feeding difficulties at 53.5%.[2] As a result, abnormal eating behaviors related to AN may be overlooked in this population. Third, communication difficulties, such as dysarthria or cognitive impairments, are often seen in children with CP.[3] This may impede the expression of psychological distress typically associated with AN, making it more difficult to recognize the underlying psychiatric disorder. Although the present case exhibited mild intellectual disability, a certain level of verbal communication was possible. These characteristics of CP contribute to the diagnostic and evaluative challenges for AN in this population.

On the other hand, adolescents with chronic illnesses have been reported to be more likely to experience body dissatisfaction, which may elevate the risk of engaging in unhealthy weight loss behaviors compared to their peers without chronic conditions.[4,5] Additionally, body image disturbances and eating problems have been documented in patients with various chronic physical conditions.[6–12] A report by Kate Webb et al.[13] described the case of a woman in her 30s with a long history of AN, highlighting the potential role of low self-esteem and perfectionism in the development of AN among patients with CP. In the present case, the patient exhibited body image disturbances influenced by low self-esteem, perfectionist tendencies, and perceived caregiving burden expressed by others. These findings were consistent with previous reports.

Early referral to a specialist is critical when restrictive eating disorders,[14] including avoidant/restrictive food intake disorder or AN, are suspected in children with CP. Due to the high prevalence of swallowing and feeding difficulties among children with CP, they face an increased risk of dehydration, pneumonia, malnutrition, and a decline in quality of life.[15] Additionally, severely underweight children

with CP have been reported to experience poorer health outcomes and a higher risk of mortality,[16] therefore early detection and intervention are essential to prevent severe complications and improve outcomes.

CONCLUSION

This case indicates that diagnosing and assessing AN in children with CP can be particularly challenging. Children with CP who develop anorexia nervosa are prone to rapid progression to severe physical conditions; therefore, early consultation with a specialist is strongly recommended.

AUTHOR CONTRIBUTIONS

Yukia Nishiue and Dai Miyawaki drafted the manuscript. Moe Koki and Tomoko Harada critically reviewed and revised the manuscript. All authors have read and approved the final version.

ACKNOWLEDGMENTS

We sincerely appreciate the cooperation of the patient. The authors have no funding to report.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

N/A.

ETHICS APPROVAL STATEMENT

N/A.

PATIENT CONSENT STATEMENT

Written informed consent for the publication of this case report was obtained from both the patient and parents.

CLINICAL TRIAL REGISTRATION

N/A.

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How to cite this article: Nishiue Y, Miyawaki D, Koki M, Harada T. Anorexia nervosa in a child with cerebral palsy. Psychiatry Clin Neurosci Rep. 2025;4:e70097. https://doi.org/10.1002/pcn5.70097