

ARFID: Gastrostomy, Rescue Therapy

Zuojun Cai^{1*}, Patricio Mendoza Gálvez², Gabriel Vargas Duarte³ and Karla Rubio Téllez⁴

¹Pediatrics Resident, Multicenter Program of Medical Specialties ITESM-SSNL, Tecnológico de Monterrey, School of Medicine and Health Sciences, México

²Medical Surgeon, Graduate of Tecnológico de Monterrey, School of Medicine, and Health Sciences, México

³Director of the Pediatric Program, Multicenter Program of Medical Specialties ITESM-SSNL, Tecnológico de Monterrey, School of Medicine, and Health Sciences, México

⁴Pediatrics Resident, Multicenter Program of Medical Specialties ITESM-SSNL, Tecnológico de Monterrey, School of Medicine, and Health Sciences. Tecnológico de Monterrey, School of Medicine and Health Sciences, México

***Corresponding author:** Zuojun Cai, Pediatrics Resident, Multicenter Program of Medical Specialties ITESM-SSNL, Tecnológico de Monterrey, School of Medicine, and Health Sciences, México

ARTICLE INFO

Received: 📅 March 06, 2024

Published: 📅 March 20, 2024

Citation: Zuojun Cai, Patricio Mendoza Gálvez, Gabriel Vargas Duarte and Karla Rubio Téllez. ARFID: Gastrostomy, Rescue Therapy. Biomed J Sci & Tech Res 55(4)-2024. BJSTR. MS.ID.008737.

ABSTRACT

Avoidant/Restrictive Food Intake Disorder (ARFID) is a recently recognized feeding disorder in the DSM-5. It involves the avoidance or restriction of food intake due to a lack of interest or aversion to certain or all foods, unrelated to body image perception or a desire to lose weight. This disorder can lead to significant weight loss and nutritional deficiency. We present the case of a 5-year-old male diagnosed with ARFID, intending to illustrate the diagnostic approach, offering gastrostomy as part of the multidisciplinary treatment. The patient had previously been diagnosed with autism spectrum disorder, meeting DSM-5 criteria. Referral from outpatient care to hospitalization occurred due to moderate dehydration and constitutional symptoms. Multidisciplinary assessment ruled out infectious, oncological, endocrine, gastrointestinal, and neurological pathologies. Gastrostomy was chosen as the nutritional intervention due to the patient's absolute refusal to try any food, along with occupational therapy focusing on feeding. ARFID is a psychiatric disorder with a challenging diagnostic and therapeutic approach, requiring a multidisciplinary team and exclusion of organic pathologies before meeting DSM-5 criteria.

Keywords: ARFID; Feeding Disorder; Weight Loss; Restrictive Intake; Gastrostomy; Autism Spectrum Disorder

Introduction

Avoidant/Restrictive Food Intake Disorder (ARFID) is a feeding disorder recently recognized in the DSM-5. It is characterized by the avoidance or restriction of food intake due to a lack of interest or aversion, unrelated to body image alteration or a desire to lose weight, leading to significant weight loss and nutritional deficiency. We present a case of a 5-year-old with ARFID admitted for moderate dehydration and significant weight loss. This review aims to present a multidisciplinary therapeutic approach to weight loss associated with this disorder.

Case Description

A 5-year-old male, referred from the pediatric outpatient clinic, was hospitalized for moderate dehydration and constitutional symp-

oms. According to the mother, the child is the product of the fifth gestation, with a history of 2 previous cesarean sections and 2 miscarriages. Prenatal care was uneventful. The patient received exclusive breastfeeding for 3 months, followed by formula feeding. Introduction of solid foods started at 6 months, but the child showed reluctance to new foods, making integration into family meals challenging. Regular occupational therapy for the past 4 months aimed to expand food variety with minimal improvement. The patient's diet mainly consisted of water, rice cakes, and vegetable chips. Neurodevelopmental milestones were achieved within expected timelines, except for partial toilet training at 4 years, currently using diapers during sleep. Motor and language development were appropriate for age. Allergies to amoxicillin-clavulanic acid were reported. The patient presented with general discomfort, lethargy, anorexia, and a significant weight loss

of 12.3% over the last three weeks. Alterations in behavior, including lack of interaction with peers and increased food restriction, were noted. The physical examination revealed an ectomorphic phenotype, pale skin, bilateral sunken eyes, dry oral mucosa, decreased abdominal skin turgor, and a capillary refill of 3-4 seconds. Height was 113 cm (32nd percentile), weight was 17.1 kg (7th percentile), and BMI was 13.4 kg/m² (2nd percentile).

Emergency blood glucose measured 47 mg/dl. Hospitalization included intravenous rehydration and a multidisciplinary approach: complete blood count, acute phase reactants, urinalysis, and chest X-ray showed no abnormalities, ruling out infectious causes. Oncolog-

ical evaluation, including various tests, ruled out malignancy. Endocrinology monitored glucose levels and investigated hormonal imbalances, identifying central hypothyroidism secondary to malnutrition. Diabetes mellitus and adrenal insufficiency were excluded. Neurological evaluation, including MRI and EEG, revealed no abnormalities. Child abuse and other digestive disorders causing oral aversion were also ruled out. Considering the recent diagnosis of autism spectrum disorder and the patient's selective oral intake, a neurodevelopmental evaluation integrated the diagnoses of autism spectrum disorder and ARFID, meeting DSM-5 criteria. Due to the patient's nutritional status, gastrostomy placement was agreed upon to ensure feeding therapy, alongside occupational therapy focusing on feeding (Figure 1).



Figure 1: Abdominal X-ray with anteroposterior projection of a postoperative patient with gastrostomy placement.

Discussion

The diagnosis of Avoidant/Restrictive Food Intake Disorder (ARFID) is established in the DSM-5 in 2013. The diagnostic criteria for this syndrome are based on specific eating behaviors, specifically food selectivity, lack of appetite, and fear of feeding due to aversive consequences (more common with 36.92%, as reported in the analysis by Medina-Tepal et al) [1,2]. The patient exhibits food selectivity with a preference for crunchy textures, persistent anorexia despite occupational treatment focusing on introducing new foods, and rejection of the same. Medina-Tepal et al, through a literature review analyzing 41 articles following PRISMA and CARE guidelines, find that this syndrome is more frequent in males, with 53.85% in the 10 to 13

age group and 29.23%, but it's noteworthy that 15.38% of cases analyzed were in the age range of 20 to 56 years [2]. The etiology remains unknown and is currently under study. A multifactorial origin is proposed, involving biological, psychological, and environmental factors [3]. Biological factors include hormonal and appetite-regulating peptide alterations, prematurity, and taste sensory disturbances. In the present case, sensory alterations became evident, such as reporting dysgeusia (a metallic taste in food) and rejecting milk upon discovering that his mother administered medications in it. Psychological factors include affective alterations and traumatic events during development, while environmental factors encompass lack of exposure to certain flavors and textures, forced feeding, or lack of exposure to new foods. Diagnosis of this pathology should be done carefully, ruling out

organic pathologies before integrating elements recently established in DSM-5. Katzman et al, in a study with Canadian pediatricians, found that about 63% of specialists in their pilot study were unfamiliar with ARFID.

Diagnosis relies on clinical questioning (obtaining a thorough dietary history), DSM-5 criteria (Appendix Table 1), and suggestive signs and symptoms. The Eating Disturbances in Youth-Questionnaire (EDY-Q) is a useful diagnostic tool consisting of 12 questions and can be a simple tool for physicians less familiar with ARFID [4]. Regarding laboratory studies, blood analyses are particularly useful to assess the characteristics and degree of malnutrition, especially to review deficiencies in vitamins and minerals. ARFID is also associated with various psychiatric pathologies. Medina-Tepal et al report that in 26.15% of cases, no primary psychiatric disorder was reported in patients diagnosed with ARFID. However, some patients reported the presence

of two or more disorders in addition to ARFID, with anxiety disorders being the most common at 38.46%. Selective eating, specifically in terms of type, texture, or presentation, is the most common eating disorder in patients with autism spectrum disorder (ASD). This could be one of the first symptoms manifested in undiagnosed children with ASD. These patients may also reject foods, exhibit disruptive eating behaviors, and prefer unhealthy foods (as seen in our patient’s food repertoire) or inadequate portions. Fruits and vegetables are generally rejected by most patients. De Toro et al suggest that, although its prevalence is not precisely known, previous studies suggest that 46-89% of children with ASD present atypical eating habits [1]. Norris et al mention that most patients diagnosed with ARFID experienced significant weight loss or a deficit in adequate weight gain. Avoidance of foods due to their texture or smell, or a general aversion to food, were the most frequently reported eating symptoms.

Appendix Table 1: Diagnostic criteria for Avoidant/Restrictive Food Intake Disorder (ARFID) according to DSM-5. (9).

DSM-5
Name: Avoidant/Restrictive Food Intake Disorder
Disorder Class: Feeding and Eating Disorders
<p>A. An eating or feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following:</p> <ol style="list-style-type: none"> 1. Significant weight loss (or failure to achieve expected weight gain or faltering growth in children) 2. Significant nutritional deficiency. 3. Dependence on enteral feeding or oral nutritional supplements. 4. Marked interference with psychosocial functioning.
D. The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another mental disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.
B. The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.
C. The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one’s body weight or shape is experienced.
DROPPED
D. The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.
Specify if: In remission: After full criteria for avoidance/restrictive food intake disorder were previously met, the criteria have not been met for a sustained period of time.

Lack of appetite and total food rejection were also commonly mentioned symptoms. Other reported symptoms include abdominal pain, fear of vomiting, anxiety when eating, complaints of satiety, nausea, and unpleasant sensory experiences when eating [5]. In the present case, the patient experienced dysgeusia and unpleasant experiences with food intake upon discovering that his parents used them to administer medications, as mentioned earlier. Regarding treatment, Medina-Tepal et al establish that hospitalization is the most common treatment modality at 46.34%, followed by outpatient treatment at 41.46%. Therapeutic conductive therapy is essential in management

and mainly focuses on reducing restrictive eating practices, selective eating, and recovering associated signs and symptoms such as low weight. On the other hand, Family Therapy aims to motivate and empower family members to support the patient’s recovery using different strategies. Among the most used medications are antipsychotics, primarily olanzapine [1].

In the present case, cognitive-behavioral therapy was implemented for a period of 3 months before the episode that led to the hospital admission. A total of 16 sessions were conducted with the aim of in-

roducing foods and addressing issues related to their selection and refusal to ingest unselected textures. Despite efforts in therapy, no significant improvements in intake were observed, leading to a critical state of malnutrition. This was evidenced by clinical signs such as sunken eyes, dry skin, positive skin turgor with a dry fold, and dry mucosa. Additionally, frequent and severe episodes of hypoglycemia were documented during hospitalization. Given the described circumstances, the indication for gastrostomy became indispensable in the treatment. Gastrostomy provides a safe and stable route for administering necessary nutrition, preventing the patient's selective denial of food. This intervention will allow the patient to receive essential nutrients to improve his nutritional status and address the deficiencies that have led to malnutrition. It is important to emphasize that the decision to perform a gastrostomy has been made after carefully considering all available options and evaluating the associated risks and benefits. The lack of response to cognitive-behavioral therapy and the urgent need to address malnutrition and its negative consequences for the patient's health have been considered [7-9].

Conclusion

ARFID is a psychiatric disorder challenging to diagnose and manage, requiring a multidisciplinary approach and reliance on new diagnostic tools. Comprehensive patient care, education, and family support are essential.

Acknowledgments

The authors thank the patient's family for their cooperation, the nursing and medical teams involved in the patient's care, and the institutions supporting this study.

Conflict of Interest

The authors declare no conflict of interest.

Funding

This study received no external funding.

Ethical Approval

Ethical approval was obtained from the Institutional Review Board at Tecnológico de Monterrey, School of Medicine and Health Sciences.

Informed Consent

Informed consent was obtained from the patient's legal guardians.

References

- De Toro V, Aedo K, Urrejola P (2021) Avoidant/Restrictive Food Intake Disorder (ARFID): What the pediatrician should know. *Andes pediatr* 92(2): 298-307.
- Medina Tepal KA, Vázquez Arévalo R, Trujillo ChiVacuán EM, Mancilla Díaz JM (2023) Avoidant/Restrictive Food Intake disorder (ARFID): Review of case studies. *Revista Mexicana de Trastornos Alimentarios/Mexican Journal of Eating Disorders* 13(1): 71-84.
- Zimmerman J, Fisher M (2017) Avoidant/Restrictive Food Intake Disorder (ARFID). *Curr Probl Pediatr Adolesc Health Care* 47(4): 95-103.
- Hilbert A, van Dyck Z (2016) *Eating Disorders in Youth-Questionnaire*. University of Leipzig.
- Norris ML, Robinson A, Obeid N, Harrison M, Spettigue W, et al. (2014) Exploring avoidant/restrictive food intake disorder in eating disordered patients: a descriptive study. *Int J Eat Disord* 47(5): 495-499.
- Tomioka K, Nishiyama M, Tokumoto S, Yamaguchi H, Nozu K, et al. (2022) Behavioral Therapy for Children with Avoidant/Restrictive Food Intake Disorder Dependent on Tube or Oral Enteral Nutrient Formula: A Feasibility Study. *The Kobe journal of medical sciences* 67(4): E155-E160.
- Angulo D, Bustos E, Sánchez A, Barja S (2016) Rehabilitation of oral feeding in children with chronic respiratory diseases and prolonged enteral nutrition. *Nutr Hosp* 33(4): 368.
- Regier DA, Narrow WE, Clarke DE, Kraemer HC, Kuramoto SJ, et al. (2013) DSM-5 field trials in the United States and Canada, Part II: Test-Retest Reliability of Selected Categorical Diagnoses. *American Journal of Psychiatry* 170(1): 59-70.
- Katzman DK, Stevens K, Norris M (2014) Redefining feeding and eating disorders: What is avoidant/restrictive food intake disorder? *Paediatr Child Health* 19(8): 445-446.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2024.55.008737

Zuojun Cai. Biomed J Sci & Tech Res



This work is licensed under Creative Commons Attribution 4.0 License

Submission Link: <https://biomedres.us/submit-manuscript.php>



Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles

<https://biomedres.us/>