

CASE REPORTS

Rumination in eating disorders – A case report

Ruminação em contexto de perturbações do comportamento alimentar - A propósito de um caso clínico

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ABSTRACT

Rumination syndrome is characterized by both voluntary and involuntary postprandial regurgitation. Although some physiological and psychological factors have been studied, the underlying mechanism is not yet understood.

The aim of this study was to review the comorbid association between rumination and eating disorders based on the clinical case of a 13-year-old adolescent girl with purging anorexia nervosa who presented with ruminative episodes.

Rumination syndrome in adolescents is often associated with comorbid mental health disorders. In eating disorders, the diagnosis has some additional challenges due to the secrecy surrounding this behavior and its heterogeneous presentation. Although still largely unknown to most clinicians, rumination syndrome in adolescents may be partly responsible for emotional and organic deterioration and should therefore be addressed.

Keywords: adolescence; anorexia nervosa; case report, rumination

RESUMO

A síndrome de ruminação caracteriza-se por regurgitação pós-prandial voluntária ou involuntária. Apesar de estarem descritos fatores fisiológicos e psicológicos, o mecanismo subjacente não está totalmente esclarecido.

O objetivo deste estudo foi fazer uma revisão da presença de episódios de ruminação em perturbações do comportamento alimentar (PCA), partindo do caso clínico de uma jovem de 13 anos de idade com diagnóstico de anorexia nervosa purgativa e episódios ruminativos com início durante o acompanhamento.

Nos adolescentes, a síndrome de ruminação surge frequentemente em comorbilidade com outras perturbações psiquiátricas. Nas PCA, o diagnóstico apresenta alguns desafios, quer pela dissimulação do comportamento, quer pela heterogeneidade da apresentação. Embora ainda seja pouco conhecida, a síndrome de ruminação pode potenciar a deterioração emocional e o agravamento orgânico, devendo por isso ser considerada na avaliação destes doentes.

Palavras-chave: adolescência; anorexia nervosa; caso clínico; ruminação

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INTRODUCTION

Rumination syndrome is a functional gastrointestinal disorder characterized by effortless postprandial regurgitation. Although previously thought to be a condition associated with intellectually delayed children or adults, it has become clear that healthy, cognitively unimpaired individuals can also manifest this disorder.⁽¹⁾

According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), rumination is characterized by the voluntary or involuntary regurgitation of partially digested food, which is then rechewed and swallowed or expelled. The regurgitation process is sometimes preceded by a belching sensation, but the individual typically does not experience vomiting or nausea. The diagnosis of rumination disorder can be established when the individual consistently regurgitates food over a period of at least one month that cannot be attributed to a gastrointestinal or other medical condition. In addition, this behavior must not be solely a factor of another eating disorder, such as anorexia nervosa, bulimia nervosa, or binge eating disorder, or occur in the setting of another mental illness or neurodevelopmental disorder. Finally, the behavior must be severe enough to warrant independent clinical attention.⁽²⁾

Adolescent rumination is a rather uncommon functional gastrointestinal disorder (FGID) that differs from infantile rumination syndrome, which typically manifests between the ages of three and six months and often occurs in infants who are emotionally neglected or have severe cognitive impairment.⁽³⁾ In addition, the onset of rumination syndrome is almost invariably preceded by a psychological stressor or anxiety/depressive disorder, which is also associated with the recurrence of episodes. Despite being a relatively indolent disorder, patients with rumination may experience secondary physical and psychological complications, including weight loss, malnutrition, electrolyte imbalance, functional impairment, distress, and anxiety.⁽³⁻⁴⁾

The mechanism underlying rumination in humans is not fully understood, but since reverse peristalsis does not appear to occur, it has been hypothesized that it may be caused by relaxation of the upper esophageal sphincter combined with contraction of the rectus abdominis muscle. Lower esophageal sphincter pressure is also likely to be reduced, possibly due to the slight negative pressure created by the lowering of the diaphragm. The rumination, which may be voluntary or involuntary, is apparently spontaneous, effortless, and unrelated to posture, and may be repeated several times or over several hours per episode. It usually occurs within 10 to 15 minutes after eating or drinking and at almost every meal and every day.^(5,6)

These patients may ruminate, vomit, and return to their previous activity or employment and resume normal functioning. They vomit immediately after eating and cannot stop, being unable to control the situation regardless of the social setting and entering a vicious cycle.⁽⁶⁾ Weight loss is also commonly associated with rumination, especially when patients stop eating to avoid embarrassing situations, despite

usually normal body mass index (BMI) at the time of diagnosis.^(7,8)

CASE REPORT

A 13-year-old adolescent girl weighing 52 kg with a BMI of 18.5 kg/m², followed at a private Child and Adolescent Psychiatry (CAP) outpatient clinic for anorexia nervosa, presented with purging episodes. She had a history of obesity (85 kg; BMI 30.3 kg/m²), which initially led to resolution of weight loss, with family validation at the time. She initially reported some dietary adjustments, favoring foods that she described as "healthy" and slightly restricting food portions. She then began an intensive exercise program along with further dietary restrictions, resulting in a 25 kg weight loss over the next five months. Some purging behaviors were also present to overcome the guilt associated with food and body image distortion.

During follow-up, the girl had a favorable clinical course, not only in terms of nutrition, but also in management of guilt and body image distortion. Her daily functioning also improved, with reintegration into her peer group and improvement in social relationships with family and friends. This clinical stability lasted for a seven month-period when she admitted to the doctor the occurrence of ruminative-like phenomena dating back to May, during which she regurgitated, chewed, and repeatedly swallowed food for approximately 10 minutes after meals. This had no analytical implications. Although the girl denied any trigger, she and her parents believed these episodes were a clinical consequence of the refeeding process, which increased the parents' concern and led to a deterioration of the family environment.

Although the girl denied intentionality in these behaviors, even citing feelings of severe anxiety and increasing thoughts of worthlessness and shame that she tried to hide, she also admitted that they provided a sense of relief from the preceding gastrointestinal discomfort.

At this time, a new dietary restriction was initiated, with a 3 kg weight loss and personal disinvestment associated with depressive symptoms, which culminated in CAP hospitalization after observation by a pediatrician who ruled out organic consequences of weight loss or rumination.

During inpatient treatment, the initial intervention focused on support and management of food-related difficulties and motivation for change, resulting in a solid weight recovery. In parallel with the increase in food intake, the girl described recurrence of rumination episodes that had decreased during the restriction period prior to hospitalization. These episodes had a significant impact on her, not only because of the social stigma she felt, but also because they meant a longer mealtime and thus exacerbated feelings of guilt and ambivalence. A series of audio-guided relaxation exercises focused on diaphragmatic breathing were used to more effectively manage mealtime anxiety and reduce the occurrence of rumination episodes.

DISCUSSION

As described in this case, rumination syndrome in adolescents is often associated with comorbid mental health diagnoses. The most common are depression, anxiety, and eating disorders, particularly purging bulimia nervosa (episodes of binge eating followed by attempts to purge food by vomiting, using laxatives, or overexercising in the context of excessive concern about weight and shape).^(2,9) Given the female predominance of this disorder and the frequent occurrence of weight loss, classic eating disorders such as anorexia nervosa and bulimia nervosa should be considered in the differential diagnosis because of the confounding factors between these two diagnoses.⁽¹⁰⁾

The diagnosis of rumination syndrome in adolescent can be established based on clinical history alone, although new diagnostic tools such as esophageal impedance monitoring may help to make the appropriate diagnosis of rumination and rule out other differential diagnoses.^(7,8) The late diagnosis of rumination syndrome in this case is consistent with the current literature, as the diagnosis of rumination in individuals with eating disorders has been found to present additional challenges. Several authors suggest that the secrecy surrounding this behavior is the main reason for this delay, which not only leads to underdiagnosis but also explains the discrepancies in the prevalence rates of eating disorders in patients with rumination syndrome in different studies.^(9,10)

The relief of gastrointestinal discomfort after rumination described in this case has also been found to be relatively common in other studies. This relief may therefore lead to more rumination episodes aimed at ending the feeling of discomfort. However, in this clinical case, the rumination behaviors remained involuntary and were described as unwanted.⁽¹⁰⁾

The authors highlight the engaging behavior following regurgitation. In this case, despite the associated emotional discomfort, the girl would swallow food to stop regurgitation, which disagrees with the tendency described in the literature of bulimics to exteriorize rather than swallow regurgitated food, presumably in an attempt to reduce the amount of food ingested. In such cases of exteriorization of regurgitated food, the medical consequences of rumination may indeed mimic those of bulimic patients with recurrent purging episodes. The most serious complications are related to electrolyte imbalances, such as hypokalemic states, which were not found in this case.⁽⁵⁾

CONCLUSION

Although still largely unfamiliar to most clinicians, rumination syndrome in adolescents, particularly those with eating disorders, may be partly responsible for emotional deterioration and organic aggravation and should therefore be addressed in the clinical approach to these patients. Treatment of rumination can be challenging due

to the apparent relief it provides. In patients with eating disorders, treatment of the underlying disorder and consequent restoration of overeating control, combined with diaphragmatic breathing training, has often resulted in cessation of rumination.⁽⁵⁾

AUTHORSHIP

Mariana Ferraz de Liz - Conceptualization; Writing – original draft
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