REVISITING RUMINATION DISORDER:

CASE REPORT AND LITERATURE REVIEW

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BACKGROUND: Rumination Disorder (RD) constitutes a functional gastrointestinal disorder, characterized by **effortless, often repetitive**, regurgitation of recently ingested food into the mouth, which can subsequently either be chewed and re-swallowed or spat out by the patient. [1-4] Regurgitation typically occurs 10 to 15 minutes after a meal, but can persist for up to 1 to 2 hours, and occurs regardless of the type and amount of food ingested. [3, 5]

OBJECTIVES: To report a case of RD and review the literature on this issue.

MATERIALS AND METHODS: The patient's history and clinical data were reviewed; a research was performed on PubMed® on RD, and the resulting articles were subsequently summarized.

DISCUSSION: The literature on RD is scarce, and little is known with regard to its pathogenesis and epidemiological data. It is thought to be uncommon, although some authors suggest it is greatly **underreported**, due to the predominantly secretive nature of the behaviour and lack of awareness among physicians. [1-3] It appears to be more frequent in male than female patients, although this is not consistent across studies (mostly based on case-reports). [1] Some reports suggest a higher prevalence among **children and individuals with intellectual disabilities** [1-3]; nonetheless, its occurrence has been gradually recognised in the **general adult population**, with potential onset at any time in life, unrelated to the mental status of the individual. [1-3, 5]

The pathophysiology of human rumination is poorly understood. It is thought to occur due to an increase in intra-gastric pressure, caused by **voluntary** (yet unperceived and unintentional) contraction of the abdominal wall musculature; the increased pressure of the gastric contents overcomes the lower esophageal sphincter (LES), thus leading to the retrograde emptying of the stomach. [2-4, 6]

Possible contributing factors include over-eating, rapid ingestion, poor mastication, dyspepsia, as well as psychological and developmental factors (e.g. neuroticism traits, social/familial disturbances, **emotional neglect**, learnt or **conditioned behaviours**, inadequate form of self-gratification). [1, 2, 4, 5] It is aggravated by emotional disturbances and extremely **stressful situations**, and occasionally occurs as a collateral behaviour of other **eating or mood disorders**. [1-5]

Rumination is rarely the presenting symptom, but may be suspected by other **indirect complaints** (e.g. halitosis, dyspeptic symptoms, nausea, abdominal pain, weight loss). [1-4] Diagnosis is often delayed, due to its secretive nature and unspecific symptoms (differential diagnosis should be made with other gastrointestinal disorders) [2, 4].

CASE REPORT

- ✓ 26 year-old man with intellectual disabilities, institutionalized since the age of 8, in the context of physical abuse and neglect by his parents.
- ✓ Medicated with 50mg chlorpromazine, 20 mg olanzapine and 20mg diazepam per day (started in 2013, during an emergency room visit due to behavioural disturbances).
- ✓ The patient was first brought to a consultation at our outpatient psychiatry unit in 2018, due to recurrent postprandial regurgitation of undigested food: after every meal (up to 1 hour later), the patient voluntarily induced the regurgitation and rumination of the previously ingested food.
- ✓ The regurgitation was effortless, painless, and never associated with nausea. The patient claimed it gave him a calming and pleasurable sensation. This behaviour had been present ever since childhood (for over 10 years).
- ✓ The patient was very reluctant and embarrassed to speak about this behaviour.
- ✓ There was no record of other (current) significant behavioural or clinical disorders, besides complaints of dyspepsia (by the patient) and halitosis (by his carers) over the past months.
- ✓ Laboratory tests and upper digestive endoscopy were normal.
- ✓ Support therapy and behavioural measures were recommended; no changes were made to the medication. The patient evidenced a reduction of the frequency of the rumination episodes during the following months.

Possible **complications** of RD include medical sequelae (e.g. secondary structural gastroesophageal disorders, malnutrition, electrolyte abnormalities, dental erosions, aspiration pneumonia), psychosocial consequences (e.g. embarrassment; reduced involvement in social activities; bullying; **reduced quality of life**), as well as psychiatric symptoms/disorders (e.g. anxiety, depression, eating disorders). [1-3, 7]

Treatment options for RD are poorly studied and have limited efficacy: behavioural psychotherapy, patient education and support, **diaphragmatic breathing** (with or without biofeedback therapy) and baclofen (particularly in refractory cases, due to its relaxing effect on resting LES tone). [1-7] Some reports also suggest use of chewing gum [2], buspirone [3] or low dose tricyclic antidepressants [4]. Drugs such as proton pump inhibitors, metoclopramide and domperidone are ineffective and may worsen symptoms. [2] Outcome ranges from short-lived episodes and spontaneous remissions to chronicity. [1]

CONCLUSIONS: Additional research is needed to further clarify this phenomenon, its clinical and pathophysiological characteristics, and possible treatment options.

[1] Parry-Jones, B., *Mercyism or rumination disorder. A historical investigation and current assessment*. Br J Psychiatry, 1994. 165(3): p. 303-14. | [2] Absah, I., et al., *Rumination syndrome: pathophysiology, diagnosis, and treatment*. Neurogastroenterol Motil, 2017. 29(4). | [3] Halland, M., J. Pandolfino, and E. Barba, *Diagnosis and Treatment of Rumination Syndrome*. Clin Gastroenterol Hepatol, 2018. 16(10): p. 1549-1555. | [4] Hejazi, R.A. and R.W. McCallum, *Rumination syndrome: a review of current concepts and treatments*. Am J Med Sci, 2014. 348(4): p. 324-9. | [5] Brown, W.R., *Rumination in the adult. A study of two cases*. Gastroenterology, 1968. 54(5): p. 933-9. | [6] Pauwels, A., et al., *A Randomized Double-Blind, Placebo-Controlled, Cross-Over Study Using Baclofen in the Treatment of Rumination Syndrome*. Am J Gastroenterol, 2018. 113(1): p. 97-104. | [7] Luiselli, J.K., *Behavioral treatment of rumination: Research and clinical applications*. J Appl Behav Anal, 2015. 48(3): p. 707-11.