Rumination in Two Developmentally Normal Children: Case Report and Review of the Literature

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This report describes the cases of two normal 6-year-old children, both of whom experienced rumination for a period of 6 to 8 months, followed by full remission. For each of these children, rumination was a reaction to situational stress (adoption and maladaption, respectively). These cases represent the addition of a new form of rumination to the literature: a benign, self-limited childhood disorder of mentally and developmentally normal children, distinctly different from "rumination disorder," as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III-R).

Key words. Stomach, ruminant; gastroesophageal reflux; stress, psychological; adjustment disorders.
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This report focuses on the phenomenon of regurgitating and rechewing food in two patients, aged 6 and 5½ years. This phenomenon, known by the term *rumination* or *merycism,* has been described earlier in several circumstances[1–12] (Table).

The *Diagnostic and Statistical Manual of Mental Disorders*[13] (DSM III-R) defines "rumination disorder" as "repeated regurgitation of food, with weight loss or failure to gain expected weight, developing after a period of normal functioning. Partially digested food is brought back into the mouth without nausea, retching, disgust, or associated gastroenterological disorders. The food is then ejected from the mouth or reswallowed." The purpose of this report is to describe two cases of rumination that were benign, self-limited, and different from rumination previously described in the medical literature.

Case Reports

In the first case, an adopted 6-year-old boy developed a habit of regurgitating and reswallowing food in 1981. The phenomenon began close to the time that his adoptive mother became pregnant. He exhibited no social or emotional problems and no other change in behavior, and he maintained his usual appetite and weight.

Routine growth and development examinations indicated that he was normal for his age before, during, and after the symptomatic period. He was referred for an upper gastrointestinal study, which was interpreted as normal. A pediatric gastroenterology consultant dismissed the phenomenon as benign. Rumination continued for about 6 months and disappeared when his brother was born.

The boy's adoptive parents underwent psychotherapy on an individual basis: the father for a mild anxiety disorder with depressive components; the mother for mild marital adjustment concerns. They also sought family counseling for issues involving their children. It was difficult to assess the relationship of parental and family emotional stress to the boy's rumination, with the exception of its relationship to his adoptive mother's first pregnancy. The 6-year-old in this case is now an adolescent in his last year of high school and has had no recurrence of rumination.

In the second case, a 5½-year-old girl with a younger sister started "vomiting" and rechewing food in 1986. On close observation, it became clear that the vomitus was actually rechewed food, which the child alternately ejected or reswallowed. No other change in

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Table. Clinical Circumstances in Which Rumination Has Been Described

Infants up to 17 months of age who fail to thrive; sometimes severe and considered a result of a faulty relationship between mother and child.[1–4]
Severely mentally retarded children and adults, as seen in the Prader-Willi syndrome.[2,5–8]
Children with gastrostomy.[9]
Adults with severe gastroesophageal reflux.[10]
Adults who use a capacity to regurgitate for entertainment.[11]
Adults and children who develop a chronic habit of ruminating.[12]

behavior, appetite, or weight was noted, and physicial examination was normal before, during, and after the symptomatic period. She was not depressed and did not exhibit any emotional or social problems.

Consultation with the same pediatric gastroenterologist who had been consulted in the adopted boy's case resulted in dietary advice and reassurance. Family adjustment and parenting issues were discussed during the office encounters, and a possible link with the 5½-year-old's symptoms was suggested. The parents were invited for a brief course in couples' therapy with their family physician and family nurse involving exploration of the family environment and function.

Issues of parenting, borders, and peer rivalry were discussed. It soon became apparent that where the family lived, a relatively isolated co-operative village (kibbutz), may have been a factor in her symptoms. A plan to move temporarily to England, the mother's original homeland, was entertained and adopted. Some months after the symptoms had begun, they disappeared spontaneously. More than 6 years later, the family is still in England, and the girl is well and free of symptoms. The parents are also happier with their move and social environment.

Discussion

Although reports of rumination in humans were common until the early part of this century, this condition is now largely unfamiliar. Oser and Brockbank have emphasized its functional and familial nature,[12] and more recent literature has identified rumination associated with a variety of clinical problems[1–12] (Table).

Recent literature emphasizes the serious conditions associated with rumination. One remarkable exception describes a benign, habitual clinical syndrome of adults, adolescents, and children.[12] In this series, barium swallows radiography showed no abnormalities. Most patients had either a family or a personal history of psychiatric disorders, but none had any serious psychiatric problems. All had been ruminating for many years, except for one 24-year-old patient, who stopped after 18 months. Behavioral therapy to reduce rumination was successful in one patient. Most patients were satisfied with the reassurance that the habit was harmless.

Our two cases describe a self-limited disorder of mentally and emotionally normal children who do not seem to fall into any of these categories. The children were characterized by normal growth, development, and physical and laboratory examinations. In both cases, possible "reactive" components could be identified: natural pregnancy of an adoptive mother in the first case and a stressful social family situation in the second. In both cases, the symptoms disappeared without biomedical intervention. In the second case, a short course of family counseling with a supportive-directive focus was undertaken.

The two cases described in this report differ from those reported by Levine[12] in that the patients are younger and their ruminations are not "habitual." Thus, it is apparent that rumination exists in a wide range of ages from infancy to adulthood and is a broad spectrum of conditions, ranging from short, benign, and self-limited (as in our cases) to severe and life-threatening.

It is not surprising that there is debate regarding how rumination should be medically classified.[14] In the author's opinion, it merely reflects that each of these classifications contains only a partial account of the condition.

A growing interest in rumination is apparent in the recent medical literature. Physiologic studies in adults, which combine esophageal pH monitoring and manometry, electromyography of the abdominal wall, and monitoring of respiration, have established some facts about the phenomenon. Transient relaxation of the lower esophageal sphincter induced by voluntary abdominal-wall muscle contractions and increasing pressure is documented. It is hypothesized that patients learn to use neural pathways to induce transient lower esophageal relaxation by increasing pressure in the proximal stomach.[10,15–17] However, the pathophysiology is still not perfectly clear.

Treatment of rumination has ranged from parenteral nutrition, psychiatric treatment, behavioral conditioning, biofeedback, and counseling to simple reassurance.[5,8,9,12,17] These treatment modalities reflect an apparent strong belief in the behavioral origin of the rumination phenomenon.

We concur with Levine's assessment[12]: "Rumination is a benign process and can be diagnosed with confidence from a careful history. Investigations are un-

likely to indicate upper gastrointestinal abnormalities unless other symptoms or signs are present. Most patients appear to be relieved when their problem is recognized and they are reassured that it is harmless." Yet this is a recommendation based only on a limited clinical observation.

We encourage primary care practitioners to report similar cases to us for the purpose of conducting an epidemiological study and developing a sound clinical approach to this unusual phenomenon.

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