Irritable Bowel Syndrome Presenting in the First Week of Life

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Chronic nonspecific diarrhea is a common problem in pediatric practice.[1] Many children with persistent diarrhea have been found to have various enzyme deficiencies,[2] cow's milk intolerance,[3] and persistent infections.[4] However, there are a large number who have diarrhea of unknown etiology. Many have a disorder which resembles the well-known adult gastrointestinal disturbance, "irritable bowel syndrome."[5] In adults, this can follow one of three clinical patterns: spastic colon, painless diarrhea, or alternating bouts of diarrhea and constipation.[6] Some authors have found that many such adult patients had symptoms as children which disappeared by three or four years of age only to reappear in adolescence or early adulthood.[1]

Psychological factors have been repeatedly implicated in the cause of this syndrome; for example, as many as 70 percent of adult patients have psychological problems or recent stress compared to a rate of 18 percent in control patients.[7] Few studies, however, have examined the role of psychological factors in the etiology of this disorder in children. Nearly 25 years ago, Prugh and Shwachman reported that children with this syndrome experienced exacerbations of diarrhea in settings of family crisis or in relation to emotional conflict on the part of the parents.[8] The only controlled study of this has been a recent report by Wender et al, in which children with chronic nonspecific diarrhea had a higher frequency of sleeping problems, crying and irritability, overactivity, and discipline problems compared to a matched control group.[9]

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This case is reported as a rather remarkable example of the irritable bowel syndrome, both for its age of onset and clear association with emotional stress.

Case Report

C. B. was delivered at term to a gravida 6, para 3, Ab 3, 19-year-old mother. Birth weight was 3,260 gm. The pregnancy was complicated only by a urinary tract infection in the last trimester. The labor and delivery were normal and the child went home at three days of age on breast feeding.

Family history revealed that the mother was abused as a child, ran away from home at the age of 13, and was married at 15 years of age. Her husband was an abandoned child and had a history of delinquency. The first child was placed in foster care at the age of six months after being abused by his father. The second child was voluntarily placed with the maternal grandmother at birth. C. B. was an unwanted child and her mother became depressed soon after the child's birth.

The child was seen at five days of age because of excessive crying, spitting up, and frequent diarrheal stools. She was seen one week later for the same complaints and an oral monilia infection. At the mother's request, breast feeding was discontinued; the child was placed on a soy formula because of the diarrhea. The diarrhea improved, but over the next seven months the child had multiple visits for complaints of vomiting, diarrhea, excessive irritability, and crying. The child's diarrhea consisted of six to eight loose, unformed yellowish-green stools per day. The diarrhea lessened when the child was hospitalized at five months of age for evaluation; during this time the mother made very infrequent, sporadic visits to the hospital. The diarrhea returned within a week of discharge.

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Evaluation of the child for organic etiologies of the diarrhea revealed normal results from a complete blood count and urinalysis; test results showed normal values for electrolytes, calcium, phosphorus, serum carotene, and sweat chloride, and negative results from stool examinations for parasites, fat, and reducing substances. Results from multiple cultures of the stool as well as urine cultures were negative. The child's weight fell to the third percentile, and the diarrhea continued despite multiple formula changes.

The interaction between the mother and the child progressively deteriorated. The child would cry and look around anxiously whenever her mother would feed her. Her development also fell behind and at the age of eight months, C. B. was performing at a six-month level. Her mother became increasingly depressed, separated from her husband, and was finally hospitalized for severe depression. The child was voluntarily placed in temporary foster care at eight months of age.

In foster care the child's diarrhea resolved and her personality improved dramatically. Her development rapidly improved and her weight increased to the 40th percentile. She was free from diarrhea until a two-hour visit with her mother about a month later. That evening the child developed diarrhea, and cried unconsolably. The diarrhea resolved two days later but recurred when she again saw her mother for a brief visit the following month. The child again became anxious and irritable and had diarrhea for two days. The child has continued in foster care and is doing well without further episodes of diarrhea. The mother has not had further contact with the child since the child was 11 months of age.

Discussion

Multiple laboratory examinations and dietary manipulations failed to reveal an organic cause for this child's diarrhea. Despite the early age of onset, this child's diarrhea was clearly associated with overwhelming family problems and stressful interaction between mother and child. Short-term and long-term separation of mother and child produced resolution of the diarrhea, with rapid recurrence upon reintroduction of the stress produced by the disturbed mother-child interaction to the child.

Psychological factors have been implicated in other childhood feeding disorders such as failure to thrive with disordered maternal-child interaction,[10] and the rumination syndrome.[11] In both of these disorders, disturbances in the interaction of mother and child lead to alterations in gastrointestinal function of the child with resultant effects on growth. It appears from this case and from the literature that the irritable bowel syndrome likewise may involve psychological effects of the mother-child interaction on gastrointestinal function.

Consideration of psychological causes early in the evaluation of a child with chronic nonspecific diarrhea may prevent fruitless laboratory investigations and unsuccessful therapeutic attempts. Successful resolution of the psychological stresses may not only result in treatment of the present symptoms but may also be beneficial in preventing other stress related problems from appearing in later life.

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References

1. Davidson M, Wasserman R: The irritable colon of childhood (chronic nonspecific diarrhea syndrome). J Pediatr 69:1027, 1966
2. Lifshitz F, Coello-Ramirez P, Gutierres-Topete G: Monosaccharide intolerance and hypoglycemia in infants with diarrhea: Part 1: Clinical course of 23 infants. J Pediatr 77:595, 1970
3. Kuitunen P, Visakorpi JK, Savilahti E, et al: Malabsorption syndrome with cow's milk intolerance: Clinical findings and course in 54 cases. Arch Dis Child 50:351, 1975
4. Burke JA: Giardiasis in childhood. Am J Dis Child 129:1304, 1975
5. Austad WI: The irritable bowel syndrome. NZ Med J 86:291, 1977
6. Drossman DA, Powell DW, Sessions JT: The irritable bowel syndrome. Gastroenterology 78:811, 1977
7. Young SJ, Alpers DH, Norland CC, et al: Psychiatric illness and the irritable bowel syndrome: Practice implications for the primary care physician. Gastroenterology 70:162, 1976
8. Prugh DG, Shwachman H: Observations on "unexplained" chronic diarrhea in early childhood. Am J Dis Child 90:496, 1955
9. Wender EH, Plamer FB, Herbst JJ, et al: Behavioral characteristics of children with chronic nonspecific diarrhea. Am J Psychiatry 133:20, 1976
10. Fischhoff J, Whitten CF, Pettit MG: A psychiatric study of infants with growth failure secondary to maternal deprivation. J Pediatr 79:209, 1971
11. Rotheny WB: Rumination and spasmus nutans. Hosp Pract 4(9):102, 1969