Emotional issues are commonly expressed with reference to the abdomen or gastrointestinal tract. An impression arising without apparent intellectual processing is a "gut reaction." The expressions "he makes me sick" or "she nauseates me" synonymously describe someone to avoid. One who persistently annoys another is a "pain in the ass." A "bellyacher" describes a person with unjustified complaints. It comes as no surprise, then, that functional or psychosomatic illness is extraordinarily common in gastroenterology. Among outpatient referrals to our pediatric gastroenterology clinic at UCLA, we estimate that 65 to 70 percent of complaints are ultimately found to arise from psychosomatic problems.

When we use the words "functional" or "psychosomatic" to describe a category of illness, virtually everyone knows what we mean. Yet, if we attempt to locate a definition based on positive statements of fact, we find ourselves at a loss. The best definitions we can find may include words like "adjustment reactions" or "life problems." Ultimately we usually end up with "not organic."

In this article we will come no closer to an adequate positive definition of this category of illness. The terms functional and psychosomatic have been arbitrarily taken as synonymous, and the term psychosomatic chosen to represent both—with apologies to purists. Rather than attempt the impossible task of refining the definition, the philosophical problem which renders the task of definition impossible will be discussed. Following this, the practical problems of dealing with psychosomatic complaints of regurgitation, disorders of defecation and chronic abdominal pain will be discussed. Exhaustive compilation of lists of differential diagnoses for each complaint is beyond the scope of this article; some of the most frequently encountered diagnoses are included in the tables.

DEFINITION: THE IMPOSSIBLE TASK

The sociocultural model we use for defining disease rests primarily on the philosophical framework of mind-body dualism; that is, the belief or notion that the operations of the mind and the operations of the body are fundamentally separable aspects of human beings. Any causal influence that one aspect has on the other is presumed to be minimal. We have no facts on which to base a judgment regarding the validity of this philosophical belief—other than to say it has been accepted truth for Western societies of man for hundreds of years. This philosophical framework allows us to deal with illnesses affecting human beings as exclusively biological or somatic events and requires no social or behavioral dimensions. This would seem to imply that psychosomatic illness could not exist—a blatant paradox. Thus, establishing a definition of such illness is impossible.

The second philosophic framework which subtly subverts the attempt to characterize psychosomatic illness is reductionism; that is, the view that all complex phenomena are ultimately derived from primary measurable principles and (by implication) that with sufficient effort we can understand these principles. This philosophic view is the cornerstone of the scientific method itself. Virtually every major medical advance and all our technology derive from this viewpoint and its value is universally recognized. Yet, an exclusive reliance on reductionist philosophy would mean that we could only know what we can objectively measure. Since we are presently at a loss for objective physical measurements of psychosomatic disease, and probably always will be, we cannot define it.

These philosophical foundations, dualism and reductionism, have served us admirably in allowing us to develop a model of disease process that permits rational discrimination of somatic and biochemical events leading
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to organic illness. We can be justifiably proud of the achievements in diagnostic technology and therapeutic manipulation brought about under the model. Paradoxically, we can also recognize that exclusive reliance on the model in understanding human disease may be inadequate—at least as it applies to psychosomatic illnesses. This inadequacy has prompted some authors to call for a major change in the philosophical foundations by which a model for disease process is constructed. (For more extensive discussion of these problems, suggested changes, and expected results of such changes, the interested reader is referred to those authors.14)

THE PATIENT'S COMPLAINT

Despite the recognized existence of psychosomatic disease, until recently we have had no traditional groundwork for rational judgments regarding the nature of such disease. Nevertheless, the daily practice of medicine demands that we seek practical solutions in evaluating these problems. This begins with the patient's history.

The single unifying feature of psychosomatic complaints is their ambiguity. The patient or parent is vague about the time of onset, vague about the localization of a pain, vague about the frequency and severity of the problem. There is often an implicit intent on the part of the patient to be vague and thereby to conceal sensitive material.

At the same time, the patient demands an "answer" from the physician, which characteristically evokes some degree of confusion and vexation in the physician's mind. This awareness of the physician that the patient's complaints seem intentionally ambiguous and that his expectations are excessive is the single best clue to positive diagnosis of psychosomatic illness.

Clearly, this awareness evoked within the mind of the physician by the patient has no scientific basis. There are no scales by which one might measure how much ambiguity is too much, whether vagueness has a measure of intent, or what expectations are excessive. The ability of the physician to achieve this awareness and act effectively may vary from day to day and from physician to physician.

REGURGITATION

- Infancy. Normal newborns regurgitate following meals; children over six months old rarely do. There is no convincing evidence that this difference is due to a physiologic immaturity of smooth muscle function in the esophagus or stomach. Mothers of as many as 50 percent of normal newborns may complain to the pediatrician of spitting or vomiting but only five percent will require diagnostic evaluation and medical intervention.

The determination whether regurgitation is significant begins with the character of the vomitus. Significant vomiting in a breast-fed baby is unusual and should be a cause for alarm. Projectile vomiting is seen more commonly in infants with obstruction such as pyloric stenosis. Bilius vomiting in the newborn period is always significant and requires radiologic evaluation. Hematemesis may be seen with peptic ulcers, gastritis, portal hypertension or esophagitis from severe recurrent gastroesophageal reflux. It may also result from nasopharyngeal bleeding, or, in the newborn, from swallowed maternal blood. Significant hematemesis, due to bleeding from an upper gastrointestinal source, should be evaluated endoscopically.

Significant regurgitation may be associated with infectious, gastrointestinal, neurologic, or metabolic abnormalities. A partial list of differential diagnoses to be considered are listed in Table 1.

An infant without an obstruction, neurologic or metabolic abnormality who appears well but who has recurrent regurgitation probably has gastroesophageal reflux. In this setting, criteria for diagnostic evaluation and intervention should include: 1) lack of growth in height and weight consistent with nutritional deprivation; 2) evidence of acute or chronic blood loss from the gastrointestinal tract, i.e., hematemesis, occult blood in stool or evidence of iron deficiency; 3) evidence of esophagitis or esophageal stricture; 4) recurrent pulmonary disease suggestive of aspiration or recurrent episodes of wheezing; 5) anemia or "aborted SIDS"; and 6) intractability, i.e., a child whose intellectual, social and psychological development appears threatened by repeated bouts of regurgitation.

There is evidence to suggest that psychological issues are important in infants with reflux. Esophageal reflux with severe sequelae are particularly common in institutionalized children with developmental or neurological abnormalities. The rumination syndrome is characterized by severe gastroesophageal reflux, lack of weight gain and a response to alterations in the psychosocial environment.
### TABLE 1.
CAUSES OF REGURGITATION

<table>
<thead>
<tr>
<th>Category</th>
<th>Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastrointestinal Obstruction</td>
<td>Tracheoesophageal fistula, stenosis, acquired stricture, vascular ring, muscular ring, muscular hypertrophy, webs, achalasia, chalasia</td>
</tr>
<tr>
<td>Esophagus</td>
<td>Pyloric stenosis, antral webs, peptic ulcer, antral dysmotility</td>
</tr>
<tr>
<td>Stomach</td>
<td>Peptic ulcer, hernia, intussusception, stenosis, atresia, annular pancreas, congenital bands, volvulus, rotational anomalies, superior mesenteric artery syndrome, duplication</td>
</tr>
<tr>
<td>Small Bowel</td>
<td>Hirschsprung's, meconium plug, meconium ileus, small left colon syndrome duplications</td>
</tr>
<tr>
<td>Colon</td>
<td>Idiopathic pseudo-obstruction, scleroderma, foreign body, perforation</td>
</tr>
<tr>
<td>General</td>
<td></td>
</tr>
<tr>
<td>Infection and Inflammation</td>
<td>Gastroenteritis, hepatitis, meningitis</td>
</tr>
<tr>
<td>Viral</td>
<td>Sepsis, urinary tract infection, meningitis, cholecystitis, peritonitis</td>
</tr>
<tr>
<td>Bacterial</td>
<td>Crohn's disease, ulcerative colitis, pancreatitis, necrotizing enterocolitis</td>
</tr>
<tr>
<td>Inflammatory</td>
<td>Intracranial pressure—hydrocephalus, tumor, Reye's syndrome, dysautonomia, labyrinthine dysfunction</td>
</tr>
<tr>
<td>Neurologic</td>
<td>Uremia, inborn errors of amino acid or urea metabolism, adrenogenital syndrome, hypokalemia, diabetes with ketoacidosis, Rubenstein-Taybi syndrome</td>
</tr>
<tr>
<td>Metabolic-Inherited</td>
<td></td>
</tr>
<tr>
<td>Food poisoning</td>
<td></td>
</tr>
<tr>
<td>Drug ingestion</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

Affected infants gain weight and grow when handling is increased and more attention is paid to feeding. These facts suggest that reflux in infancy is, in some cases, a psychosomatic illness, or at least that psychosocial intervention may play a crucial role in resolution of the problem.

Diagnostic evaluation and treatment of severe reflux is discussed elsewhere in this issue. The majority of babies with frequent regurgitation without any of the six criteria listed above, will not require extensive workups. For these babies, maternal reassurance is important. However, as with all psychosomatic complaints, it will often fail to meet the mother's expectations. She wants to know why the baby vomits and how to stop it. The more desperate she is to find an answer, the more gratuitous she will find the reassurance. Under these circumstances, an extensive medical evaluation of the problem may be necessary and may, in fact, be therapeutic if it serves to allay parental anxiety.

In this setting, a history of early neonatal separation of mother and baby is common. The mother may be concealing fundamental doubts about her ability to mother the child adequately, and these feelings may be reinforced by a disapproving husband or grandparent. She may have very troubling ambivalence regarding whether her baby's dependency needs can or should be gratified. These difficulties can arise in the best of families and are usually well-hidden in initial interviews. Giving Mother the responsibility for making a physical alteration in the baby's environment, changing the feeding, thickening the feeding, or propping the infant in an infant seat may give her the opportunity to displace her doubt and guilt. When less threatened, she may be willing to discuss some issues which trouble her more deeply and thus achieve resolution of the crisis.

- **Childhood.** Vomiting in childhood is a much more troublesome complaint. Chronic regurgitation after the child has learned to walk is distinctly unusual and requires evaluation. Conditions to consider include primary central nervous system disease, metabolic or
endocrine disease, chemical toxicity, gastrointestinal obstruction or inflammation, genitourinary disease, and labyrinthine disease. The most common cause of acute onset regurgitation is viral gastroenteritis and most vomiting episodes seen by pediatricians will be included in this general category. A child with more than three to five acute attacks per year for more than two years may be said to have recurrent cyclic vomiting. Many of these children will have episodes lasting longer than 12-24 hours, which is unusual in simple gastroenteritis caused by a virus.

The incidence of this complaint has been estimated to be about two percent of school-age children. In an extensive review, 82 percent of patients with recurrent cyclic vomiting had onset of symptoms prior to six years of age; the mean duration of symptoms was six years. Most children had attacks every one to two months which rarely lasted more than four days. Headache, fever, and abdominal pain were often associated complaints during attacks, but between attacks the patients were apparently well. The rate of growth was normal in all. A family history of cyclic vomiting or migraine headaches was common.

The act of vomiting is neurologically mediated. The vomiting center located at the dorsolateral border of the reticular formation is the final common pathway for emetic stimuli from the chemoreceptive trigger zone in the ventral surface of the fourth ventricle, from cranial nerves and from descending cortical tracts. Antiemetic drugs commonly exert their effect on afferent neural pathways (antihistamines) or the chemoreceptive trigger zone (phenothiazines, metoclopramide).

The association of recurrent cyclic vomiting with paroxysmal neurologic disorders, epilepsy or migraine, has been suggested but not proven. There is no consistent evidence for electroencephalographic abnormalities in these children. The frequency of a family history of migraine and headaches during acute episodes makes the association with migraine tenable. In such cases, severity and intractability may justify a trial of anticonvulsants or ergot alkaloids. No controlled studies of long-term management of recurrent vomiting with either medication have been conducted.

Follow-up studies have disagreed with regard to prognosis of recurrent cyclic vomiting. Existing data suggest that these children develop a pattern which may frequently persist into adult life and that psychological disturbances become debilitating at that time. Recurrent or protracted vomiting may be an early manifestation of anorexia nervosa, but the vomiting seen with this syndrome is considered to be more “willful” than that associated with recurrent cyclic vomiting.

The psychological disturbances associated with recurrent vomiting in school-age children include many that
are common with other psychically mediated gastrointestinal disturbances. Observers have reported a high incidence of intolerable losses and separations, parental ambivalence regarding the child's apparently excessive dependency needs, hostility, and a feeling of being trapped in a relationship with a person who "makes me sick."

Many of the difficulties seem to arise from the social circumstances of sitting down to eat together with those individuals who are most likely to induce hostility in the patient. Modification of social circumstances at meal time may allow the child to adopt a more appropriate attitude to meals and defuse the situation; a child should not be isolated at meal time, but rather allowed to eat his meals with more neutral or appealing household members.

Recurrent vomiting patterns which have been present for many years may be quite difficult to treat. It may be inappropriate to recommend chronic medication with significant side effects for symptoms which occur less than six times per year, when no strong data exist for their efficacy. Cases recalcitrant to treatment may benefit from intensive regular psychotherapy.

DISORDERS OF DEFECATION

• CNSD. The single most common cause of the complaint of chronic diarrhea in infants 6 to 36 months of age is chronic non-specific diarrhea of infancy (CNSD). The list of possible differential diagnoses is lengthy (Table 2), but infants in this category can be relatively easily recognized. Characteristically, stools are large, dark green and watery, in the early morning and following meals. Frequency of stooling tapers off during the day and ceases at night. Total stool volume is usually less than 20 ml per kg for infants weighing less than 10 kg, and less than 200 ml per day in all others. The child pursues normal activity, appears entirely well, gains weight and grows at the normal rate. Stool tests show no carbohydrate, blood or leukocytes, and an alkaline pH. Fat balance studies show that the stools contain less than five percent total ingested fat. Episodes of diarrhea may follow viral illnesses, treatment with antibiotics, or stressful familial events. Well-meaning parents and physicians may attempt to remedy the situation by chronically administering clear liquid diets. On such diets, the child may fail to gain weight from caloric deprivation; a careful dietary history is essential to exclude weight loss due to malabsorption.

Occasionally, Giardia lamblia infection may be confused with CNSD. Freshly stained wet mounts of early morning stool should be examined for the presence of trophozoites or cysts. Unfortunately, the diagnostic efficiency of stool examination is 50 percent or less, and small bowel biopsy or aspiration may be indicated to establish the diagnosis. 7

Other characteristics of infants presenting with this syndrome may include a family history of functional bowel complaints, fair hair and skin, a report of a high level of general activity and a level of parental concern which appears to far exceed the apparent threat to the health and well-being of the child. Either the complaint is rarely heard from parents of low income groups, or they are rarely the ones to seek the aid of a subspecialist.

The natural history of chronic non-specific diarrhea is to resolve at toilet-training age. There are no data to suggest that it persists into adulthood, or that it is associated with adult irritable bowel syndrome. The alterations in basic electrical rhythm and manometric response to cholinergic agents recently reported to characterize the irritable bowel syndrome in adults, have not yet been shown to occur in childhood. 8 It is, therefore, not yet appropriate to designate the childhood disorder "irritable bowel syndrome of infancy."

Recent experimental work has focused on clear liquid feedings as a cause for perpetuation of the symptom. In one study, while increasing the amount of fat in the diet appeared to assist resolution of the problem, the follow-up period was not of sufficient length to conclude efficacy. 9 Nevertheless, a child in whom a positive diagnosis of chronic non-specific diarrhea is confirmed
TABLE 3.

CAUSES OF FECAL RETENTION

- Functional fecal retention
- Hirschsprung's disease
- Idiopathic pseudo-obstruction
- Scleroderma
- Hypothyroidism
- Hypokalemia
- Chronic mild dehydration—diabetes insipidus, diabetes mellitus
- Primary muscle disease—muscular dystrophy myotonia, prune belly syndrome
- Primary neurologic disease—myelomeningocele, spinal chord injury, neurofibromatosis, Chagas' disease
- Anal stenosis

clearly merits a full caloric diet.

Other management alternatives include restriction to three to four meals per day with no between-meal snacks or liquids. All fluids are given at close to room temperature. These measures are designed to reduce the absolute number of meal-associated stimuli to mass colonic movements. Prior to toilet-training age, mass colonic movements stimulate an obligatory defecation reflex if stool is present in the rectum.

The etiology of this disorder is unknown. Frequently, a physician who is persuaded to hospitalize such an infant finds that the stooling pattern becomes entirely normal. On careful evaluation, it may become apparent that it is the well-being of the mother, who has to clean up the stool from the bed clothes and carpets, which is more at issue than the well-being of the child, who is perfectly satisfied with the situation. Provision of a pyllium seed colloid or an increase in dietary bulking agents may lessen the frequency of turmoil in this circumstance.

Occasionally, the persistent complaint of diarrhea may be a veiled cry for help on the part of the parent who is uncertain about the state of his or her own health. The onset of the uncertainty may be temporally related to the birth of the child or the onset of the child's diarrhea. By complaining about the offensive stools, the parent may be saying, in effect, that "this child is making me sick." In most circumstances, parents allowed to unveil these concerns will unbeme themselves and reach a resolution of the crisis.

- Constipation. Toileting behavior has been the topic of pediatric debate for some time and, in many homes, continues to be a major battleground for parental disciplinary supremacy. The child's initial contact with the toilet bowl constitutes his most intimate encounter with the technological age. The bowl is large, clean, lifeless, and cold. It makes a disturbing noise at the

command of the adult who operates it. Its function is to dispose of material which, to the mind of the child, was only recently part of his body and remains, in some sense, "alive."

Constipation, the passage of hard stools, and obstipation, the infrequent passage of stools, may begin in infancy. Organic lesions which cause obstipation or constipation are listed in Table 3.

The task of differentiating Hirschsprung's disease from chronic constipation is crucial. A history of delay in passage of meconium to 48 hours following birth, failure to gain weight and grow, gross distention and infrequent stools of toothpaste size and consistency are most often present in children with Hirschsprung's disease. Rectal examination discloses no stool in the rectal ampulla. The passage of stools is evoked by withdrawal of the examining finger. A barium enema is helpful, but may be misleading in infants less than one month of age. Manometric evaluation in Hirschsprung's disease will show lack of internal sphincter relaxation following mechanical rectal distention. Three suction biopsies to look for ganglion cells and acetylcholinesterase activity three to four cm from the anal verge constitute the safest and most reliable diagnostic evaluations.

Most infants who pass infrequent or hard stools do not have Hirschsprung's disease. Breast-fed babies may normally pass small stools as infrequently as once every ten days. The baby who is well and who passes bulky, hard stools is also very unlikely to have aganglionosis.

The physiological characteristics of individuals presumed to have a constitutional tendency towards constipation are poorly defined. Perhaps they are at one end of the normal spectrum of colonic desiccation function while those with chronic nonspecific diarrhea may be at the other end of the same spectrum.

Parents become concerned when the passage of stool seems associated with considerable anguish on the part of the infant or when rectal fissures are present. Parental manipulation of the anal sphincter in this circumstance is ill-advised. Stool softening agents such as Maltupex or dark Karo syrup, when used in sufficient quantities, will result in loosening of stools for more comfortable passage. The lack of inherent danger in the infrequent passage of stools must be emphasized.

- Encopresis. The passage of formed stool in inappropriate places is called encopresis. A child must be well beyond normal toilet training age—older than four—to be called encopretic.\(^\text{10}\) The problem commonly develops on a background of chronic constipation or functional fecal retention. Differentiation from Hirschsprung's disease is usually the first order of business. Typically, the child with functional retention has a history of normal growth and has occasionally passed enormous hard stools. Fecal accumulation is associated with discomfort and retentive posturing. Bulky, firm stool masses are palpable through the abdominal wall. There is a dramatic disappearance of symptoms after stool is evacuated.

During the interview, the child (usually a boy) often pretends to be disinterested. He will deny that a problem exists and volunteer no information. He will display little glee or anger and has nothing good to say about anyone, most especially about himself. In fact, he has been overwhelmed by his occasional loss of control and devastated by critical comments of parents and peers. His recourse is to "try harder" to hold onto stool, which only leads ultimately to repeated failure.

Physiology works against the functional retainer. The limitation of tonic contraction of the external anal sphincter is about 60 seconds. Distention of the rectum with the stool relaxes the internal anal sphincter. In continent subjects, this sends a conscious impulse to the brain telling the external sphincter to close voluntarily. There is evidence to suggest that conscious appreciation of the urge to defecate measured by verbal acknowledgement of graded distending stimuli in the rectum is reduced in encopretic patients, perhaps due to the chronic distension with stool.\(^\text{11}\) Since stool with the lowest viscosity is the most difficult to retain, the result is that the irresistible force (defecation reflex) overwhelms the immovable object (external anal sphincter) and soft stool is passed involuntarily.

An explanation of rectal retentive physiology is often of great help when discussing the problem with patients and parents. Drawing a picture of the rectum and the anal sphincter demystifies the area and helps to make the problem objective. This helps legitimize efforts taken to achieve resolution.

The first treatment goal is to unload the rectum in both an emotional and a physical sense. Emotional unloading is accomplished by detailed explanation and reassurance; physical unloading is brought about with mineral oil. A beginning dose would be 30 ml twice a day. The patient is followed twice a week with phone contact or office visit. At each contact, if a stool mass has not been passed, the dose of mineral oil is increased by 50 percent. Passage of a
### TABLE 5.

**CAUSES OF ABDOMINAL PAIN**

<table>
<thead>
<tr>
<th>Gastrointestinal</th>
<th>Infectious</th>
<th>Generalized Illness</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peptic ulcer, Crohn's disease, ulcerative colitis, chronic constipation, hernia (internal or external), intussusception, obstruction or infection of liver and biliary tract, Budd-Chiari, acute portal hypertension, splenic congestion, pancreatitis, superior mesenteric artery and celiac axis syndromes, Meckel's diverticulum, celiac disease, lactose intolerance, Hirschsprung's disease, meconium ileus or equivalent, mesenteric adenitis, abdominal abscess, appendicitis, viral or bacterial gastroenteritis, peritonitis</td>
<td>Sepsis, respiratory infection, rheumatic fever, streptococcal pharyngitis, infectious mononucleosis, herpes zoster radiculitis</td>
<td>Lead poisoning, sickle cell anemia, epilepsy, porphyria, trauma</td>
<td></td>
</tr>
</tbody>
</table>

stool mass must be verified at an office visit by palpating the abdomen or on rectal examination. Leakage of mineral oil should not prompt a decrease in dosage until the retained stool mass has been passed. The dose of mineral oil is then tapered by 15 ml per day per week until the child is feeding 15 ml per day and passing soft stool at regular intervals. The child should continue to take mineral oil regularly for two months following the establishment of a normal stooling pattern. There is no evidence to suggest that mineral oil promotes fat soluble vitamin deficiency or purgative dependency.

The second treatment goal is to assure the child that he can accomplish the regular passage of stool without discomfort and, that by doing so, he can avoid accidents. The child is allowed freedom to reach the toilet at any time and assured privacy. If his legs do not reach the floor, he should be provided a foot stool so that his knees will be relaxed.

The third treatment goal is to elevate the child's self esteem by developing his mastery of the problem. A regular scheme of positive parental reinforcement is essential. By the time they reach a subspecialist, the parents of the encopretic child are struggling against the notion that their child is fundamentally evil or even cursed. They must be persuaded that the symptom is disgusting but that the child is not, and that there is nothing mystical about the issue. It is the stool that "stinks" and not the child; a fact that many parents may have forgotten.

Eventually the parents may be given a chance to ventilate their great frustration and anger. Without such opportunity, they may easily become emotionally or even physically abusive, despite their best intentions.

**RECURRENT ABDOMINAL PAIN**

A child with a history of three episodes of abdominal pain within a three month period in whom no organic etiology is found has a syndrome defined by Apley as recurrent abdominal pain. Characteristically, the pain is localized near the umbilicus or its localization is very vague. Very rarely, pain may be well localized to the right lower quadrant or epigastric regions, sites more suggestive of Crohn's disease or peptic ulcer. There is usually no associated gastrointestinal complaint such as weight loss, diarrhea, vomiting, hematochezia or fever. Commonly, symptoms not related to the GI tract such as headache, extremity pain, and disturbance of appetite are present. Sleep disturbances are common but it is not the abdominal pain which awakens the child. Family histories of recurrent pains and emotional distress are common as well as a past history of infantile colic. Presentation in a child less than four years of age is unusual and, in this setting, organic disease is more likely.

School attendance is often poor. The child may deny that he dislikes school but often will go to great lengths to avoid physical education classes. The child is usually shy and fears social and intellectual failure in school. He may be withdrawn from peers or the butt of mocking jokes.
Children with this syndrome are described as nervous, high-strung and timid. They seem worried, serious, overly conscientious and too eager to please. They tolerate novel situations, especially separations, poorly. These personality characteristics may be evident in the parents as well.

The prevalence of the syndrome has been estimated to be 10 to 20 percent of school-age children. Girls are slightly more commonly affected than boys, especially in early adolescence.13 Psychometric testing including IQ tests has failed to discriminate these patients from normal.12

The diagnosis usually can be made from the history and the lack of physical findings. A careful examination of urinary sediment is always important in ruling out genitourinary abnormalities. A CBC and sedimentation rate may be helpful in revealing occult nutritional deficiency or inflammation. There are no other laboratory tests which are routinely indicated. The incidence of organic disease presenting with the characteristic clinical picture is five to ten percent,14 half of the organic causes will be genitourinary and the rest distributed among a myriad of differential diagnoses listed in Table 5.

There are claims that recurrent abdominal pain may be part of a paroxysmal neurologic disorder. Electroencephalographic abnormalities may be found in 44 percent of unselected patients and an increased familial incidence of seizures has been reported.15 However, the incidence of "abdominal epilepsy," if it exists at all, is no higher than one percent of all cases.14 Follow-up of reported cases has failed to show progression to true epilepsy or controlled resolution of symptoms on long-term anticonvulsants. Routine EEGs are not indicated in recurrent abdominal pain.

There is good evidence to suggest that these children suffer from chronic autonomic imbalance as measured by pupillary light response under stress12 and rectal motility response to cholinergic agents.16 The rectal motility abnormalities in recurrent abdominal pain have also been reported to occur in the irritable bowel syndrome of adults. That the irritable bowel syndrome and recurrent abdominal pain are really the same illness seems likely, but this has not been confirmed.

Therapeutic agents felt to be effective in the irritable bowel syndrome of adulthood (such as an increase in dietary bulk) may be helpful in recurrent abdominal pain. The use of potentially psychoactive medications, such as anticholinergics, or of pain and motility inhibitors, such as opiates, should be avoided.

The first goal of treatment is to provide effective reassurance to the parents and the patient. Given the context of inappropriate expectations present in most cases of psychosomatic illness, this task becomes difficult. A thorough physical examination with appropriate laboratory tests and an explanation of gastrointestinal physiology will be helpful. A subspecialty referral may help reinforce the judgment of the primary physician. In general, a complete meticulous medical examination is the cornerstone of therapeutic intervention.

Hearing that the child has no organic illness may be almost as uncomfortable for the parents as hearing that a life-threatening illness is present. Each fear that the patient and parents express must be dealt with factually and convincingly from the outset, with an appreciation for the discontent that is felt when none of the fears are shown to be justified.

The second goal is to instill in the child the impression of his normality. This will include resumption of daily activities, including school. Reasons for failing to participate in school should be elicited and resolved. Parents need to learn to reinforce the child for undertaking normal activities rather than reinforcing the impression of illness. In other words, they must learn to pay less attention to the child's expression of illness.

When the first two treatment objectives are met and confidence develops in the relationship between physician, patient, and parent, many of the well-concealed stressful events in the child's environment may become apparent. Often, recurrent abdominal pain is a cry for help from a child who sees no other recourse available. He may have concealed his fears due to lack of trust or because they have been dismissed by adults as childish or trivial. It is those trivial matters in the mind of an adult that are most crucial in the life of the child. (Goals of treatment in recurrent abdominal pain are outlined in Table 6.)

CONCLUSION

The relationship of mind and body has been a troubling philosophic problem for hundreds of years. We have seen that illness of the gastrointestinal tract lies at the center of this problem; it is probably the most common site of involvement in psychosomatic illness. This comes as no surprise when we consider the frequency of reference to the gastrointestinal tract in discussing emotional issues. It seems fitting that early theorists of psychic development, Freud and Erickson, chose the mouth and anus—the entry and exit sites of the G.I. tract—as representative of
developmental trends in infancy.

Patients and parents who come to a physician willing to spend substantial funds, willing to endure waiting in crowded rooms and able to tolerate the anxiety of a medical interview see their problems as critical issues. A reaction on the part of the physician, stated or implied, suggesting that the problem is less than critical will therefore be met with hostility and resentment. Patients are rarely completely unreasonable or deeply psychologically disturbed; the complaint always has a logical consistency. Many of the elements of the logic are hidden from view—the challenge is to try to understand the true nature of the inherent logic that resulted in the presentation of the complaint, to recognize the unavoidable ambiguities, to consider carefully all organic problems and to present the conclusions in a calm and self-assured fashion.

It is perfectly reasonable for the physician to become angry and frustrated with a patient or parent who is vague and whose expectations are unreasonable. To act rashly with anger is as imprudent as attempting to gratify all the patient's expectations. The recognition of such feelings by the physician may be his best clue to the positive diagnosis of psychosomatic illness. The management of his own feelings may dictate his success or failure in helping the patient.

REFERENCES


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