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TREATMENT OF ACUTE RECURRENT INTUSSUSCEPTION IN INFANTS

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Acute recurrence of ileocecal intussusception in an infant is an unusual and disconcerting event to both the family and the surgeon. Its incidence has been reported to be from 1 to 4% in infants who have had operative reduction1,3,7,8,9 and 12% in infants treated by hydrostatic pressure reduction.1,7 Although mortality from intussusception in infants has decreased progressively in recent years due largely to better understanding of pre- and postoperative surgical care, the mortality associated with irreducible intussusception requiring resection is still high (ranging from 7.8% to 24%).1,7

Treatment of primary intussusception consisting of a careful attempt at reduction of intussusception by fluoroscopically controlled barium enema followed, if necessary, by surgical reduction has been successful in a number of centers, with a low mortality. Additional procedures designed to prevent recurrence have been consistently deplored since the recurrence rate is so low and the efficacy of the procedures thus far designed has not been established.

Accepted treatment of acute recurrent intussusception has consisted of a second reduction by barium enema and/or surgical reduction; or resection with primary anastomosis or exteriorization.

Many surgeons have been intrigued by the findings noted at surgery for intussusception which appear to play some role in its etiology. These have been reported:1,2

MECHANICAL FACTORS
1. Disparity in size between ileum and cecum.
2. Lymphoid hypertrophy.
   a. Intraluminal — Peyer’s Patches
   b. Extraluminal — In mesenteric fold at the ileocecal valve.
   c. Mesenteric lymph nodes (Adenoviral infections).
3. Mesenteric vascular fold at the ileocecal valve.
4. Incomplete fixation of cecum and ascending colon to parietal peritoneum.
5. Hypertrophy of mucosa of ileocecal valve.

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INTESTINAL HYPERMOTILITY

1. Autonomic imbalance — parasympathetic hyperfunction.
2. Acute enteritis.
3. Allergic enteritis.

Simple reduction of recurrent intussusception seems to us to be inadequate treat­
ment since it accomplishes nothing to prevent additional recurrence in a patient who
has already demonstrated a propensity for intussusception. Ileocecal resection with
its attendant mortality (7.8%-24%) would represent hazardous overtreatment if a
method proved to prevent recurrence with reduced mortality were available.

Several techniques designed to prevent recurrence short of resection have previously
been described. It should be noted that none has consistently prevented subsequent
recurrence:

1. Shortening of the mesentery of the ileum by a running "Lembert" suture.
2. Suture of the greater omentum to the ileum at the ileocecal junction.
3. Suture of terminal ileum to the parietal peritoneum.
4. Suture of the terminal ileum to the cecum with eversion of the ileum.
5. Suture of ileum to cecum and ascending colon.
6. Suture of the cecum to the parietal peritoneum.
7. Appendectomy to produce scarring.
8. Appendicostomy.

We had the opportunity to see a three-month-old infant whose intussusception
recurred on the second postoperative day, requiring surgical reduction a second time.
Attempts at reduction by barium enema were unsuccessful both times. In order to
prevent additional recurrence short of resection, we felt that it would be necessary
to (1.) Stabilize the terminal ileum so that it could not possibly invaginate into the
cecum and (2.) Affix the cecum and ascending colon to the parietal peritoneum so
that cecocolic invagination would be impossible.

With fixation thus accomplished on two planes (i.e. vertically, the lateral margin
of the ascending colon, and horizontally, parallel to the long axis of the distal ileal
segment) recurrence would be virtually impossible.

The treatment of our patient thus consisted of:

1. Reduction of the intussusception
2. Division of the vascular ileocecal band
3. Plication of the terminal ileal mesentery one centimeter from the mesen-
teric margin of the ileum, carrying the plication superiorly along the
ascending mesocolon a short distance.
RECURRENT INTUSSUSCEPTION

4. Fixation of the cecum and ascending colon to the lateral parietal peritoneum. (Figure 1)

The child recovered uneventfully and has had no abdominal complaints in the 29 months since surgery.

In patients with acute recurrent intussusception with a reducible lesion, a two plane fixation of the ileocecal segment as described is worthy of a clinical trial. It is anticipated that this method will prove effective in reducing the mortality associated with acute recurrent ileocecal intussusception in infants.
REFERENCES


