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#### DISCUSSION

DR. RICHARD C. MILLER (Jackson): In our institution we have learned to respect a unit called the Neonatal Intensive Care Unit, and a pediatrician who is a full-time neonatologist. We believe that these people probably have contributed as much to the survival of surgical neonates in the last few years as the surgeons themselves, and we rely heavily on them. This is particularly true in those babies who have a very low birth weight, four pounds and under.

In regard to the anastomotic problem, we would concur completely that the end-to-end anastomosis is the one to do. The problem with the end-to-side anastomosis, is that the runoff is determined not by the size of the anastomosis, but by the size of the distal bowel and by the propulsive force through the proximal dilated segment. When you can resect the proximal dilated segment back to normal-sized bowel, as is possible in the ileum or distal jejunum, the anastomosis then stands the best change of functioning. The real problem, as Dr. Thomas has pointed out, arises in the high jejunal atresia, where the proximal pouch is very short at the ligament of Treitz, or just beyond it, and you can't get back to good bowel because you are right against the pancreas and the bile ducts.

However, we would always prefer the end-to-end anastomosis, and would not even do the end-to-oblique or the end-to-backside, which is simply a compromise between the side-to-side and to end-to-end anastomosis.

It is our experience that we have always been able to do an end-to-end anastomosis, even when our surgical residents point out that we have a "toothpick-size" distal end and a "telephone pole size" proximal end. In this slide (slide) one can see the disparity of size between the small distal bowel and the very large caliber bowel proximally in this case of high jejunal atresia. We have cut it back right almost up to the bile ducts, and a single layer anastomosis with interrupted 5.0 silk, with the knots on the inside is accomplished.

(Slide) We'll just show you one more illustrative case. An end-to-end anastomosis is accomplished by apportioning the sutures even when there is a discrepancy in proximal and distal end diameter of 5 to 1.

DR. JOEY M. CARTER (Closing discussion): Dr. Miller, I appreciate your remarks, and the only comment I have is that perhaps you should have done a jejunoplasty in addition to the end-to-end anastomosis. You wouldn't have had the problem of anastomosing a telephone pole to a toothpick. It would have been much easier.

I should emphasize the critical point of this paper once again, and that is to provide a functioning anastomosis in this particular congenital anomaly. Without it, of course, the infant is going to have a lot of complications.

We should also point out that the improvement in the survival of these patients over the past ten years, as compared to the previous ten years, in striking. During the past ten years we had 15 of 21 patients survive, and this represents a 71% survival rate. During the previous ten years only five of thirteen patients survived. This represented a 38% survival rate which was quite poor. We feel that by utilizing an end-to-end anastomosis our mortality and morbidity rates were greatly improved.

I have two other points to make. The first is that during the 15 end-to-end anastomoses we had one death as a result of necrosis and dehiscence of the anastomosis. The other problem we encountered was that of an anastomotic stenosis. The following two slides show this problem.

This complication occurred in a 1800 gram male infant presented to us 24 hours after birth. He was of a 30 weeks' gestation. He exhibited bilious vomiting and abdominal distention. An abdominal roentgenogram revealed a triple-bubble sign. Our preoperative impression was that of jejunal atresia.

The interesting point about this patient is that he represents the 20th case report of an "Apple-peel or Christmas tree deformity." This anomaly is represented by the short, coiled distal ileum, which measured approximately 20 to 25 cm in length. As you note, it derived its blood supply directly from the ileocolic artery. There is marked foreshortening of the mesentery and marked shortening of the entire length of the bowel. Also there is a very dilated proximal portion of jejunum which measured approximately 5 to 10 cm in length.

We performed a tapering jejunoplasty and an end-to-end anastomosis, as described by Dr. Thomas. However, this patient had difficulties postoperatively. He failed to gain weight and showed evidence of continued partial intestinal obstruction. At six weeks of age it was necessary to revise the end-to-end anastomosis.

The next slide shows the operative findings of the marked coiling of the distal ileum. We simply took the anastomosis down and performed another end-to-end anastomosis. Following this procedure, at 10 weeks of age, the child was discharged from the hospital weighing 2500 gm. At six months' followup, the child continued to gain weight and was in good health.

In closing, I would recommend to you that we think the optimum method of attacking this problem is by an end-to-end anastomosis utilizing the tapering jejunoplasty.