Pregnancy, Delivery, and Pouch Function After Ileal Pouch-Anal Anastomosis for Ulcerative Colitis

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PURPOSE: This study was designed to evaluate the pregnancies, method of delivery, and functional results of females with chronic ulcerative colitis who have an ileal pouch-anal anastomosis. METHODS: A mailed questionnaire was sent to all females with an ileal pouch-anal anastomosis for chronic ulcerative colitis. Information on the pregnancy, method of delivery, and outcome was collected. Those females who had a successful pregnancy and delivery were contacted by telephone to clarify results and determine pouch functional results. Other clinical information was obtained from the Mount Sinai Hospital Inflammatory Bowel Disease database. RESULTS: Thirty-eight subjects had 67 pregnancies. Of these, 29 subjects had 49 deliveries. There were 25 vaginal deliveries and 24 cesarean sections. There were two pouch-related complications during the pregnancies and four pouch-related complications postpartum. All were treated nonoperatively. Stool frequency and day and night incontinence were increased during pregnancy in most subjects, but after delivery, prepregnancy function was restored in 24 (83 percent) of them. Five subjects (17 percent) had some degree of permanent deterioration in pouch function. CONCLUSION: Pregnancy is safe in females with ileal pouch-anal anastomosis. Functional results are altered almost exclusively during the third trimester, but pouch function promptly returns to prepregnancy status in most females. A small proportion of females have long-term disturbances in function, but these are not related to the method of delivery. Thus, the method of delivery should be dictated by obstetric considerations.

Keywords: Inflammatory bowel disease; Ulcerative colitis; Ileal pouch-anal anastomosis; Pregnancy; Delivery


Ileal pouch-anal anastomosis (IPAA) is the preferred surgical option for most patients requiring surgery for chronic ulcerative colitis (CUC).1,2 Females requiring IPAA are usually young and within the reproductive years. Most patients with IPAA return to a normal lifestyle, and some wish to conceive. Thus, issues related to fertility, pregnancy, and the preferred method of delivery are of great concern. The first report of a successful pregnancy and delivery after IPAA was in 1984 by Pezim,3 who recommended cesarean section. Since then, other reports documenting outcomes of pregnancy have been published.4-8 It has been shown that pregnancy is safe in this cohort. However, there is no consensus regarding the preferred method of delivery and the long-term effects of delivery on pouch function. Thus, a retrospective review of all females with an IPAA who had a pregnancy was performed with the purpose of determin-
ing the effect of the pregnancy and the type of delivery on pouch function.

**PATIENTS AND METHODS**

At the Inflammatory Bowel Disease Unit of Mount Sinai Hospital, 1,088 IPAAAs were performed between 1982 and 1998. There were 481 females, with an average age of 32 years at operation. All females were sent a questionnaire collecting information on fertility, pregnancy, the type of delivery, birth weight of the baby, and complications of pregnancy and pouch. Four hundred females (83 percent) answered the questionnaire. From them, 38 were identified who had become pregnant after IPAA and 29 who gave birth at least once after IPAA. These females were contacted by telephone, and pouch function before, during, and after the pregnancy was assessed with questions related to stool frequency, incontinence during the day and night, pad usage, skin irritation, and medication use.

All data are presented as means and standard deviations. Differences were tested with Student’s t-test for continuous data and chi-squared test for dichotomous data.

**RESULTS**

Of 38 patients, 26 had a stapled J-pouch and 12 had an S-pouch. Eighteen patients had a 3-stage operation, 18 had a 2-stage operation, and 2 had a 1-stage operation. Seventeen of the ileoanal anastomoses were handsewn, and 21 were stapled. Nine patients underwent IPAA without a covering loop ileostomy. The mean interval between date of ileostomy closure (or 1-stage IPAA construction) and date of first delivery was 54 ± 27 (range, 16–102) months. Mean maternal age at the first pregnancy was 31.7 ± 4.6 (range, 24–47) years. Mean follow-up from the date of the most recent delivery was 54 ± 40 (range, 1–192) months. Two patients were currently pregnant. Both had previously given birth after IPAA.

Twelve subjects (32 percent) had a pregnancy before the IPAA. In total, they had 16 pregnancies (11 deliveries [all vaginal], 4 therapeutic abortions, and 1 miscarriage).

**Pregnancy**

After ileostomy closure 38 subjects had 67 pregnancies. Sixteen pregnancies were terminated, 9 as miscarriages and 7 as therapeutic abortions. Two patients were currently pregnant. Twenty-nine subjects had 49 deliveries: 13 subjects had 1 delivery, 12 had 2 deliveries, and 4 had 3 deliveries. Mean number of pregnancies was 1.8 ± 0.9 (range, 1–4). The mean length of time taken to conceive was 11 ± 14 (range, 1–60; median, 4) months. Three of the pregnancies were induced with in vitro fertilization, three with clomiphene citrate, and one with other medical treatment. Two subjects had previously had surgery for infertility. One had “fallopian tube reconstructive surgery” and became pregnant spontaneously three years later. Another patient underwent fibroid removal and became pregnant with clomiphene citrate treatment one year later. The remaining 40 pregnancies were all spontaneous.

Two patients had pouch-related complications during pregnancy that were probably unrelated to the pregnancy: one had an episode of pouchitis that responded to antibiotics, whereas another had a perianal abscess that was drained in the outpatient clinic. Pregnancy-related complications included toxemia in two patients (necessitating early urgent cesarean section) and an itchy rash in one patient (documented in previous pregnancies before IPAA and associated with inflammatory bowel disease–related hepatitis).

**Delivery**

Twenty-nine subjects gave birth 48 times, but there were 49 deliveries, because 1 subject gave birth to twins: the first was delivered vaginally and the second by a cesarean section. There were 25 vaginal deliveries and 24 cesarean sections. The reasons for the choice of delivery were primarily patient preference in the vaginal group and obstetric reasons or patient’s wish to “protect the pouch” in the cesarean section group (Table 1). There were four premature births (before 36-week gestation). Two babies were delivered at 27 and 32 weeks, by cesarean section, because of preeclampsia. The other two were delivered vaginally at 34 and 35 weeks, after the mother went into spontaneous labor. The rest were full-term births. One baby was a stillbirth; another baby was born alive but died within 24 hours because of Escherichia coli sepsis. The mean birth weight was 3.2 ± 0.7 (range, 1–5) kg.

**Postpartum Complications**

There were four complications (17 percent) in the cesarean section group compared with one in the vag-