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EDITORIAL

Pregnancy Concerns in Patients with Ileal Pouch Anal Anastomosis for Ulcerative Colitis: Time for Increased Education Across Specialties

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Pregnancy is an emotionally charged and physically demanding time in a woman's life. Patients who have had surgery for ulcerative colitis during their reproductive years provide a unique set of challenges for physicians before and during pregnancy. Pregnant women who have undergone surgery for medically refractory ulcerative colitis, usually total abdominal colectomy with ileal pouch anal anastomosis (IPAA), often have a close relationship with their surgeon and gastroenterologist. The patient's surgeon, gastroenterologist or obstetrician may provide counseling regarding pre-pregnancy issues and pregnancy management, with the advantage that these specialists may have diverse understanding of and approaches to the issues based on their differing training environments, respective literatures, and practice settings.

In this issue of *Digestive Diseases and Sciences*, Bradford et al. [1] assess differences in reproductive and pregnancy-related recommendations in this population using a survey design encompassing multiple clinical vignettes detailing multiple management options. They examined the impact of fertility on IPAA, the timing of IPAA in relationship to pregnancy, delivery recommendations, and who should be providing advice, reporting major differences in advice given among the specialties studied. The data in the literature that support counseling decisions range in focus from the effects of IPAA on fertility and the choice of practitioner providing advice to these patients, which are unsupported by data, to controversial surgical timing issues supported by few data.

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The authors highlight some of the most difficult areas of decision-making in terms of reproduction in women with a J-pouch. The survey data they obtained were derived from responses to an invitation distributed to two national gastroenterology and surgical professional society email lists. The obstetricians surveyed were from two large obstetric groups in Southern California. Very few of the respondents saw more than five pregnant IBD patients per year and likely far fewer of these patients had J-pouches. Since education informs excellent care, in this very specialized area of inflammatory bowel disease, the presence of key data is essential. A limited Pubmed search shows that the bulk of the information published on pregnancy and ulcerative colitis is in the gastrointestinal and surgical literature (Table 1). Obstetricians—who provide J-pouch patients with pre-pregnancy counseling, discuss pregnancy management issues, and make delivery decisions, may have the least readily available patient resource information. Most of the quality measures for IBD care currently in development in the USA are focused on treatment-related issues rather than physician and patient education [2].

Decreased fertility in patients after IPAA should be the least controversial topic addressed in this manuscript since a large body of literature supports this issue. Patients undergoing traditional IPAA procedures have extensive manipulation of the pelvis that likely leads to adhesions and alterations of tubal anatomy which may adversely affect fertility. In a recent meta-analysis, the relative risk of infertility after IPAA was reported to be 3.91 with average infertility rates 20 % before surgery and 63 % after surgery [3]. A complete laparoscopic approach to IPAA reduces infertility after IPAA: in a two center study, 11 out of 15 patients were able to conceive successfully after laparoscopic IPAA [4]. Similarly in a 50 patient cross-sectional study, the spontaneous pregnancy rate in patients with a

Table 1 Summary of studies and reviews addressing ulcerative colitis and pregnancy

Literature	IPAA and pregnancy ($n = 19$)	IPAA and fertility ($n = 18$)	Colectomy and pregnancy and ulcerative colitis ($n = 69$)	Ulcerative colitis and pregnancy and review ($n = 104$)
Surgical	9	11	22	9
Gastroenterological	6	6	26	46
Obstetrical	3	1	8	11
Other	1	0	13	38

A literature search of PubMed was performed through February 5, 2014 using the key words of IPAA and pregnancy, IPAA and fertility, Colectomy/pregnancy/ulcerative colitis and ulcerative colitis/pregnancy/review. The search was limited to English language publications and the journals were divided into surgical, gastroenterological, obstetrical and other. The other category consisted mainly of internal medicine publications. The total number of publications in each of these areas was counted and the numbers are represented in this table

laparoscopic IPAA was 70 % compared with only 39 % in the open group. It is concerning that in the Bradford study discussed here, the majority of obstetricians felt that there was no effect of this type of surgery on fertility, underscoring an educational deficit among this specialty.

In 2006, a national audit designed to assess the quality and safety of acute IBD care in the United Kingdom (UK) revealed a wide variation in the quality-of-care and resources available for IBD patients [5], which was the motivation for the development of published IBD Standards of care [6]. Between 2009 and 2013, there were marked improvements in the delivery of IBD care as measured by the UK audit system, in which patient education and evidence-based disease management were highlighted. Pregnancy, surgery and reproductive concerns are areas that, due to lack of consensus and patchy practitioner knowledge, fit well into this model. Development of patient education modules, particularly using information technology (IT), regarding pouch-related issues help young women know what to expect and what questions to ask of their providers [7].

Very few data exist in the literature addressing the timing of colectomy in relationship to fertility-related issues and regarding the choice of delivery mode in patients with J-pouches. There are concerns about sphincter damage complicating difficult deliveries and pouch dysfunction following prolonged labor. Of the involved professionals, colorectal surgeons strongly recommended Cesarean section as the optimal delivery mode, perhaps owing to their considerable experience with the technical aspects of pouch creation and in how they are functionally affected after delivery. Remzi et al. [8] investigated post-delivery pouch function in patients identified from their prospectively obtained pouch database, quantifying pouch and sphincter function using sonography and manometry. Although they reported that vaginal delivery did affect sphincter integrity, in the short term this injury did not significantly affect pouch function or quality-of-life. The concern then becomes the long-term effects on sphincter function, in particular since sphincter integrity is important in maintaining continence in this patient population with multiple liquid bowel movements per day, which may not be the immediate concern of the operating surgeon. Laparoscopic techniques for J-pouch creation with potentially less effect on fertility may change the landscape in terms of decisions regarding the timing of colectomy in a woman of reproductive age [9]. Evidence-based medical guidelines are needed to help with the decision-making process.

The British guidelines and European societies recommend the development of "high quality, safe and integrated teams" for the clinical care of patients with inflammatory bowel disease [7, 10]. In a discussion of quality indicators, the Europeans describe the establishment of functional IBD comprehensive care units (ICCUs) [10]. Although this goal may be more difficult to achieve in the US due to geographic and other concerns, initiatives such as this will likely be of benefit to practitioners caring for IBD patients of reproductive age and desire who have undergone J-pouch surgery, in particular to inform less experienced physicians about these issues and to provide appropriate referrals to a comprehensive center that can provide surgical, obstetric and gastrointestinal expertise.

The study by Bradford et al. effectively highlights the issues related to pregnancy in patients with an IPAA. It also demonstrates the lack of consensus on the major issues of concern—fertility, timing of pouch procedure related to pregnancy, and delivery method. What cannot be accomplished in a study like this is to delineate the decision-making process of the respondents, since many of these decisions are informed to some degree. Ideally, the controversial and complex nature of these issues requires a multidisciplinary team approach combined with a data-driven approach for the discussion and counseling of fertility-related and other issues where data are available, which the study suggests may be available to all physicians. Specific educational programs for practitioners who are taking care of these patients include guideline development and case-based IT education modules that could be

incorporated into residency and fellowship programs in addition to providing continuing medical education for more seasoned practitioners. The ideal situation for women who desire pregnancy who are facing colectomy with the possibility of IPAA is to work with a knowledgeable and experienced team of physicians that includes their surgeon, gastroenterologist and obstetrician.

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