Pregnancy and the Patient with Inflammatory Bowel Disease

Fertility, Treatment, Delivery, and Complications

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KEYWORDS

- Inflammatory bowel disease • Crohn disease • Ulcerative colitis • Fertility
- Pregnancy • Obstetric delivery • Breast feeding
- Drug-related side effects and adverse reactions

KEY POINTS

- Inflammatory bowel disease increases the risk of pregnancy complications and adverse pregnancy outcomes. Active disease exacerbates these risks. Universal high-risk obstetric monitoring is recommended.
- Active disease and pelvic surgery reduce female fertility. Fertility is preserved with quiescent disease. Patient misperceptions about fertility, disease risks, and medication safety contribute to voluntary childlessness.
- Most medications have a favorable safety profile for use during pregnancy and breastfeeding to induce and maintain remission. This includes the aminosalicylates, thiopurines, and biologics.
- There are potential fetal risks with intrauterine exposure to corticosteroids, certain antibiotics, methotrexate, and thiopurine-biologic combination therapy. Risk/benefit assessments should be individualized.
- Patients should be counseled about the importance of medication adherence to optimize preconception disease control and maintain remission throughout pregnancy.

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INTRODUCTION

Inflammatory bowel disease (IBD) incidence peaks during the years of childbearing potential, with half of patients diagnosed before age 32.[1] By nature of this age distribution at IBD onset, the complexities of family planning and IBD management often coincide. Although most IBD patients have successful pregnancies, women with IBD have fewer children than the general population because of voluntary childlessness.[2] Apprehension and misperceptions about fertility, medication safety, and the potential for adverse pregnancy outcomes may explain this phenomenon.[3,4] There is ample opportunity for knowledgeable providers to positively impact IBD pregnancy outcomes by optimizing disease control, mitigating medication-related risks, and enhancing patient education.

FERTILITY

Women

Fear of infertility is common among patients with IBD and may adversely impact family planning decisions.[5] In reality, women with quiescent IBD and no prior pelvic surgery have similar infertility rates (5%–14%) as the general population.[3,6] Active disease does impair fertility,[7,8] likely via multifactorial mechanisms, such as pelvic inflammation, poor nutrition, decreased libido, dyspareunia, and depression.[9] A small study demonstrated decreased ovarian reserve in women with Crohn disease, especially those with active disease.[10] Pelvic surgery significantly increases female infertility due to scarring and adhesions. A meta-analysis of ileal pouch anal anastomosis (IPAA) surgery in ulcerative colitis found a 48% postoperative infertility rate, threefold higher than the 15% rate in medically treated patients.[11] Laparoscopic total proctocolectomy with IPAA may preserve fertility compared with open surgery.[12] Abdominal surgeries that spare the pelvis, such as colectomy with ileorectal anastomosis, may also preserve female fertility.[13] Women of childbearing potential should be counseled before surgery about the infertility risk of IPAA, and less invasive procedures may be considered. However, given the retrospective nature of the studies and older techniques, true rates of infertility following IPAA are not known. IPAA does not appear to impact success rates of in vitro fertilization.[14]

Women who experience difficulty conceiving or spontaneous abortion should be assessed for occult disease activity, hypovitaminosis D, and celiac disease, all of which are associated with infertility.[15,16] If women remain unable to conceive after 6 months of calculated attempts, reproductive endocrinology referral is warranted.

Men

Less is known about male fertility in IBD. Zinc deficiency in Crohn disease may impair sperm function.[17] Certain medications have been shown to affect sperm quantity and quality. Sulfasalazine causes reversible infertility due to dose-dependent oligospermia, reduced sperm motility, and altered sperm morphology.[18] Methotrexate may reduce sperm quality, although any such effects are reversible when the drug is discontinued.[19] Some experts recommend that men stop methotrexate at least 3 months before attempting conception. Antitumor necrosis factor α (anti-TNF) medications may accelerate germ cell apoptosis in the seminiferous tubules,[20] which might theoretically decrease sperm count. However, a small study of 10 men did not find a decrement in sperm concentration following infliximab infusion.[21] It remains unknown whether medication-induced changes in sperm quality have any effect on fertility, and additional research is needed.