Understanding Inflammatory Bowel Disease in Women From Puberty to Menopause

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Abstract: Women with inflammatory bowel disease (IBD) experience distinct physiologic and clinical challenges across their lifespan. In childhood and adolescence, early exposure to corticosteroids, chronic inflammation, and malnutrition may impair pubertal development, disrupt hormonal regulation, and reduce peak bone mass accrual. During puberty, fluctuating levels of estrogen and progesterone can exacerbate gastrointestinal symptoms and IBD activity. In adult women, gynecologic comorbidities such as endometriosis and uterine fibroids may mimic or worsen IBD-related symptoms, contributing to diagnostic complexity, pelvic pain, and sexual dysfunction. As women transition into menopause, declining estrogen can further affect gastrointestinal motility and immune regulation, confounding IBD symptoms. Postmenopausal women with IBD are also at an increased risk for osteoporosis and may face elevated cardiovascular risk owing to systemic inflammation and hormonal changes. This article focuses on women with IBD beyond the years of pregnancy and lactation, emphasizing the impact of hormonal transitions, dysmenorrhea, sexual health concerns, and menopause.

Keywords
Inflammatory bowel disease, delayed puberty, gynecologic comorbidities, postpartum disease activity, menopause, women's health

Crohn's disease (CD) and ulcerative colitis (UC), collectively termed inflammatory bowel disease (IBD), are chronic inflammatory conditions of the gastrointestinal (GI) tract characterized by variable presentation and disease course.[1,2] Sex-based differences in IBD incidence and prevalence have been consistently reported.[3] Although the prevalence of IBD is similar between sexes, notable variations emerge across life stages.[4] A pooled analysis of population-based studies including 95,605 CD and 112,004 UC cases found that women had a lower risk of CD during childhood (10-14 years; incidence rate ratio, 0.70; 95% CI, 0.53-0.93), but a higher risk of CD after the age of 25 years. In contrast, UC incidence was similar in both sexes until age 45 years, after which the incidence rates become higher in men.[4] These differences suggest that underlying biological mechanisms, such as hormonal fluctuations and genetic predispositions, may contribute to sex-specific susceptibilities and disease phenotype.[5] However, these mechanisms remain incompletely understood and casual associations have yet to be established.

Women with IBD face unique challenges throughout their lifespan (Table).[5] Physiologic fluctuations in estrogen and progesterone during

Table. Clinical Considerations in Women With IBD Across the Lifespan

Life stage	Key clinical issues	IBD-specific risks	Management strategy
Puberty	Delayed menarche, growth delay, malnutrition	Corticosteroid-induced growth suppression, low peak bone mass	Limit corticosteroid use; prioritize disease control and nutrition
Reproductive years	Dysmenorrhea, contraception, fertility, sexual health, endometriosis, fibroids	NSAID-related flares, pelvic pain mimicry, impaired fertility, reduced quality of life	Hormonal contraception, multidisciplinary care with gynecology and fertility specialists
Pregnancy/postpartum	Delivery planning, risk of flares, pelvic floor integrity, postpartum depression risk	Perianal disease worsened by vaginal delivery, postpartum flares	Coordinated delivery planning, early flare surveillance
Menopause	Estrogen deficiency, osteoporosis, CVD risk, dyspareunia, urogenital disorders	Bone loss, CVD risk, sexual dysfunction	DEXA screening, HRT if appropriate

CVD, cardiovascular disease; DEXA, dual-energy x-ray absorptiometry; HRT, hormone replacement therapy; IBD, inflammatory bowel disease; NSAID, nonsteroidal anti-inflammatory drug.

menstrual cycles, pregnancy, the postpartum period, and menopause can significantly impact disease activity and require tailored therapeutic management approaches.[5] Additionally, chronic inflammation associated with IBD can negatively affect fertility and endocrine function, adding to the differential burden of IBD for women.[5]

Women with IBD display a higher prevalence of gynecologic comorbidities compared with those without IBD.[6] Conditions such as endometriosis and uterine fibroids may mimic IBD flares, complicating clinical assessment and potentially delaying accurate diagnoses. Studies consistently indicate prolonged diagnostic timelines in women compared with men, partly because of misattribution of GI symptoms to gynecologic or functional causes.[7,8] These findings underscore the need for heightened clinical vigilance and multidisciplinary collaboration in differentiating GI and gynecologic symptoms in women with IBD. This article reviews the current understanding of women's health in IBD, emphasizing aspects beyond reproduction, such as hormonal variations, menstrual disorders, sexual health, and menopausal transitions, and highlighting the clinical implications of these gynecologic conditions and associated knowledge gaps. Recognizing and subsequently addressing these knowledge gaps will help improve clinical outcomes and advance quality of life for women with IBD.

Puberty and Menarche in Inflammatory Bowel Disease

Delayed Puberty and Growth Concerns

IBD onset during childhood and adolescence can disrupt normal pubertal development in young women, leading to delayed menarche and hormonal disruptions driven by chronic inflammation and nutritional deficits.[9] In one study, 10% (n=11) of pediatric patients exhibited delayed puberty, defined by late onset of secondary sexual characteristics,[10] compared with approximately 2% in the general population.[11] In a Swedish cohort of 144 pediatric patients with IBD, 47% demonstrated low bone mineral density (BMD).[12] In contrast, in another study, pubertal and adolescent girls with IBD were most likely to have low BMD for age.[13] In a Swedish longitudinal study, the single lowest BMD readings at baseline were observed in the oldest teenage girls (mean Z score of –3.4). Consequently, those girls had significant recovery of BMD by early adulthood after IBD treatment (Z score improvement by +1.9).[14]

Delayed puberty can also impair bone accrual owing to transient hypogonadism. In girls, delayed puberty often manifests as delayed menarche: menarche occurred at 16 years or older in 73% of female patients whose CD diagnosis preceded puberty. In the same cohort, all patients with juvenile-onset UC experienced menarche by age 14 years.[15]

The exact mechanisms underlying delayed puberty in girls with IBD remain incompletely understood. The leading hypothesis is that disruption in proinflammatory cytokines, specifically tumor necrosis factor-α and interleukin-6, affects hypothalamic feeding centers, resulting in reduced appetite, undernutrition, and lower body weight—all critical factors contributing to delayed puberty.[9,16,17] Endocrinologists and nutritionists can help girls with IBD who are at high risk of growth failure, delayed puberty, nutritional deficits, low BMD, and fractures.[18,19] Promoting optimal calcium/vitamin

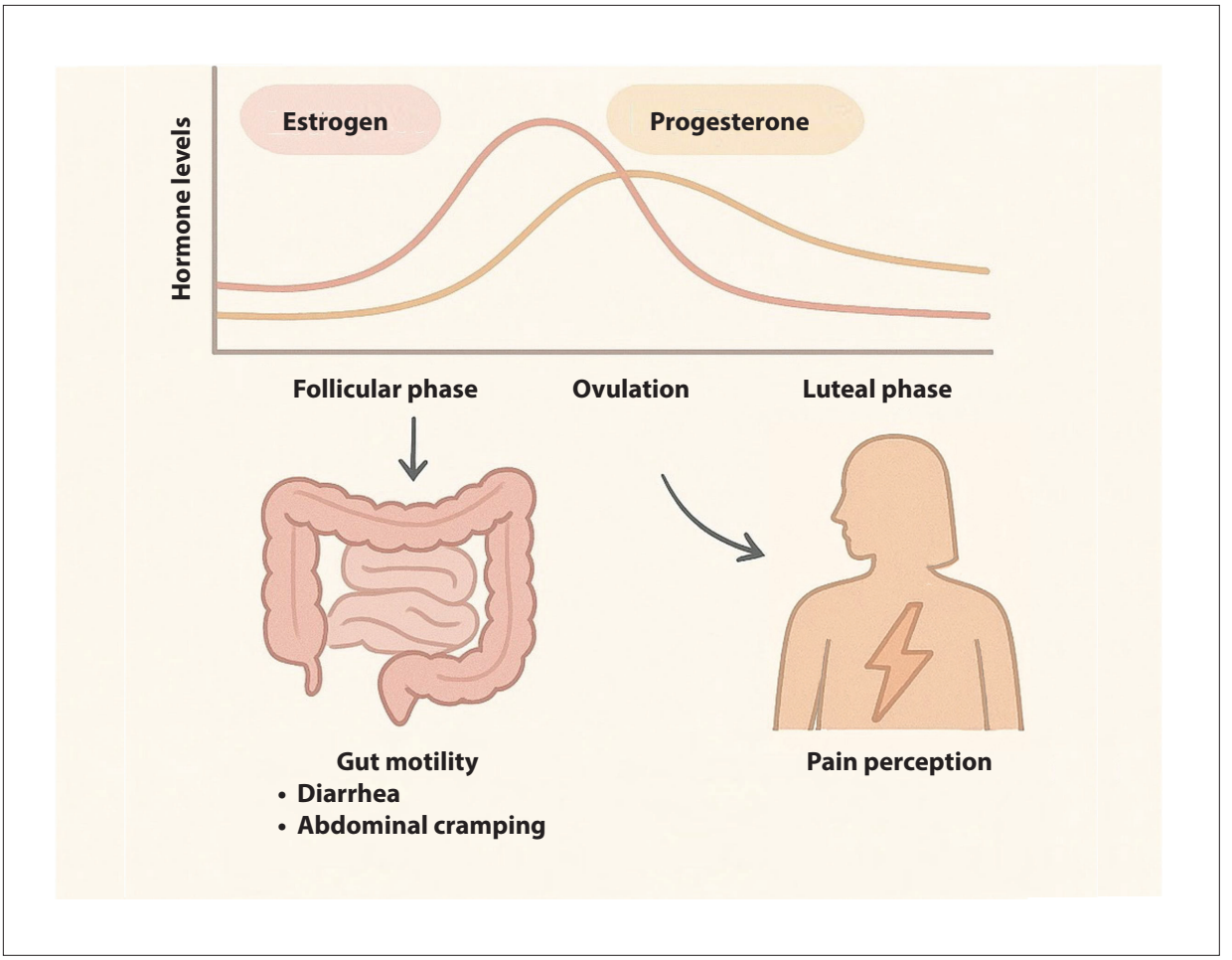

Figure. Gastrointestinal impacts of inflammatory bowel disease with phases of the menstrual cycle.

D intake and weight-bearing exercise for girls supports skeletal development. In cases of severe pubertal delay, sex hormone replacement therapy (HRT) may be indicated to stimulate pubertal maturation and bone accrual. Early, effective, target-driven IBD control is critical for normal development.[10]

Menstrual Dysfunction

Active IBD in adolescents and young women is associated with menstrual irregularities, especially in CD.[20] Proposed mechanisms include chronic systemic inflammation, malnutrition-driven hypothalamic dysfunction, and altered gonadotropin-releasing hormone (GnRH) pulsatility, which collectively disrupt normal menstrual cycling.[20-22] In a prospective cohort of 121 women aged 18 years and older with IBD, 25% reported a change in their menstrual cycle interval, and 21% reported altered flow duration in the year preceding their IBD diagnosis. This study also found that 40% of women with CD reported dysmenorrhea, and among those, 40% experienced increased intensity of menstrual pain following the onset of IBD.[20] Hormonal fluctuations during the menstrual cycle can influence GI physiology in that variations in estrogen and progesterone levels, along with prostaglandin levels, surge during menses and modulate gut motility and pain perception, triggering diarrhea and abdominal cramping (Figure).[5,23,24] Consequently, many women with IBD experience fluctuations in GI symptoms corresponding to their menstrual cycle, and over 70% report perimenstrual exacerbation of IBD symptoms.[20,25,26] This overlap complicates differentiation of true IBD flares from menstrual cycle–related symptoms.

Clinically, careful symptom tracking and correlation with objective inflammatory markers is critical to distinguish hormonal effects from disease activity. If there is concern that GI symptoms fluctuate with the menstrual cycle, consultation with a gynecologist is warranted. In some cases, hormonal management could be helpful to stabilize hormonal fluctuations and has been associated with symptomatic improvement.[27]

Gynecologic Comorbidities in Inflammatory Bowel Disease

Clinical Overlaps and Diagnostic Challenges

Endometriosis Endometriosis and IBD are two distinct conditions that can present with overlapping symptoms.[6] In women with bowel endometriosis, lesions infiltrating the intestinal wall can produce symptoms such as dyschezia, diarrhea, bloating, and rectal bleeding coinciding with menses.[28] These manifestations can mimic IBD or irritable bowel syndrome (IBS).[29] Conversely, active IBD can present with abdominal pain and even pelvic discomfort that overlaps with endometriosis symptomatology.[30] Given this overlap, patients with one condition are at risk for misdiagnosis or delayed diagnosis of the other.[6]

Epidemiologic studies support an association between endometriosis and IBD. In a nationwide cohort of 37,661 women hospitalized with endometriosis, the risk of developing IBD was significantly elevated compared with the general population, with a standardized incidence ratio of 1.5 for UC (95% CI, 1.3-1.7) and 1.6 for CD (95% CI, 1.3-2.0).[31]

Endometriosis and IBD share proinflammatory pathways such as an overactive interleukin-23/T-cell helper 17 immune axis.[32] Hormonal influences are also implicated in both conditions: endometriosis is an estrogen-driven disorder, and estrogenic immune modulation may contribute to IBD risk. Estrogen modulates immune responses primarily through estrogen receptors (ER) ERα and ERβ, promoting anti-inflammatory cytokine profiles, regulatory T-cell expansion, and inflammasome inhibition by ERβ signaling, but potentially exacerbating inflammation via ERα activation.[33-35] To illustrate, long-term use of estrogen-containing contraceptives has been associated with a modestly increased risk of CD in observational studies.[36] Additionally, some women experience IBD symptom flares premenstrually.[5] These intersections of immune and hormonal factors hint that a subset of patients may be predisposed to both conditions through common inflammatory pathways and endocrine-immune interactions. Whether IBD is a risk factor for endometriosis remains unclear; however, clinicians caring for women with IBD should maintain endometriosis on the differential diagnosis for symptoms of IBD and IBS.

Uterine Fibroids Uterine fibroids can aggravate GI and systemic symptoms in patients with IBD. Large fibroids may exert pressure on the bowel, leading to constipation, bloating, and abdominal fullness.[37] Moreover, fibroids frequently cause heavy menstrual bleeding (menorrhagia); this chronic blood loss can precipitate or worsen iron deficiency anemia.[37] Fibroid-related menorrhagia must be on the differential for anemia in a female patient with IBD.[37,38] As no direct causal relationship between IBD and fibroids has been identified, whether women with IBD are at greater risk for fibroids requires further investigation.[39]

Dyspareunia and Sexual Health Dyspareunia, defined as pain with sexual intercourse, is a prevalent yet underdiscussed issue among women with IBD.[40] Over 50% of women with IBD report some form of sexual dysfunction, including painful intercourse, compared with approximately 28% of women without IBD.[41] This high prevalence is likely multifactorial. A significant contributor is likely chronic inflammation in the pelvis, especially as a result of CD.[41,42] Perianal and rectovaginal fistulas as well as other pelvic or gynecologic disease can also make intercourse painful.[43] Women with rectovaginal fistulas often fear incontinence of stool during sex or experience recurrent vaginal infections and irritation. Even without fistulas, active proctitis or perianal inflammation can cause pain with penetration owing to tissue sensitivity and pelvic floor muscle spasm as a protective response.[44] Women with IBD may also experience dyspareunia from pelvic floor dysfunction.[45,46] Chronic pain signals from the inflamed gut can lead to hypertonicity of the pelvic floor musculature, a condition analogous to vaginismus.[47] In fact, vaginismus has been noted to be more common in women with CD.[48] This muscular tightening can itself cause painful intercourse independent of any lesions.[48]

Chronic pelvic pain syndrome (CPPS) refers to long-standing pelvic pain often without a single identifiable cause. CPPS is seen in some women with IBD.[46] Visceral hypersensitivity from IBD can generalize to bladder and gynecologic organs, akin to central sensitization seen in IBS and interstitial cystitis.[46,49] Women with IBD have higher rates of interstitial cystitis/bladder pain syndrome and IBS than the general population.[50] IBD-related pelvic pain may thus have a neuropathic or myofascial component even without bowel inflammation.[46,51] This can create a conditioned pain response: anticipation of pain leads to further muscle spasm and anxiety, perpetuating sexual dysfunction.[48]

Surgery for IBD increases the risk for pelvic nerve entrapment and/or scar tissue that may also contribute to CPPS and dyspareunia. It can be challenging to disentangle etiologies for dyspareunia. A thorough evaluation may involve gynecologic evaluation, endoscopic assessment of IBD activity, and even urologic evaluation if bladder pain is present.[52,53]

It is critical to recognize the psychological burden IBD places on sexual health.[54] Aside from nociceptive pain, issues such as body image dissatisfaction, depression, and anxiety substantially affect libido and sexual

satisfaction and disproportionately affect women.[55-58] IBD often strikes in formative years. Repeated surgeries or changes in body habitus are associated with lower self-reported sexual interest and satisfaction in women compared with men.[58] In fact, approximately 75% of women with IBD report concerns about body image.[59] Patients may experience negative perceptions regarding body image associated with the presence of an ileostomy bag or surgical scars.[58,60-62] These concerns correlate with avoidance of sexual activity and reduced intimacy.[57,60]

Management of Gynecologic Comorbidities in Inflammatory Bowel Disease

Effective management of gynecologic symptoms and conditions commonly experienced by women with IBD is early clinical recognition and timely referral to gynecologists. Hormonal therapies typically utilized for endometriosis, including oral contraceptive pills (OCPs), progestins, and GnRH analogues, are generally considered safe in IBD.[36,63,64] Although nonsteroidal anti-inflammatory drugs have traditionally been avoided in IBD, selective use of these medicines, particularly cyclooxygenase 2 selective agents, could be considered.[37,65,66] Acetaminophen can also be used.[37,65,66] Surgical interventions necessitating combined gynecologic and gastroenterology collaboration should involve multidisciplinary preoperative assessment and planning.[37,65,67] The multifactorial nature of dyspareunia in IBD necessitates targeted treatment of underlying causes, including medical and surgical management for active perianal disease and fistulas. Specialized pelvic floor physical therapy, incorporating biofeedback, myofascial release, and relaxation exercises, can address pelvic flood dysfunction and alleviate pain during intercourse.[44-46,68]

Open communication regarding sexual health is essential. Women should be encouraged to discuss fears related to sexual function. Ostomy nurses and peer support groups can help women regain confidence in sexual contexts. Anxiety and depression, which are more common in women with IBD than in men,[55,56] negatively impact sexual desire and arousal.[69] Treating underlying mood disorders through therapy and/or medications can also improve sexual function.

Contraception

Women with IBD use contraception at rates comparable to the general population.[70] In a large cross-sectional study of 228 women with IBD and 229 healthy controls, 54% of women with IBD reported using OCPs, similar to healthy controls (53%) (P=.99). However, the indication for use differed significantly between groups (P=.003): women with IBD were more likely to use OCPs to manage menstrual irregularities, whereas healthy controls primarily used them for pregnancy prevention.[70] An international survey of 338 women with IBD found that 74% reported using some form of contraception, with combined estrogen-progestin methods being the most common (28%), followed by barrier methods (18%) and long-acting reversible contraceptives (20%) such as intrauterine devices (IUDs) or implants.[71]

When selecting contraception for women with IBD, hormonal balance is a key consideration. Most contraceptive methods are considered safe in patients with IBD; however, disease-specific factors may influence their risk-benefit profiles. Of particular concern is the increased risk of venous thromboembolism (VTE) associated with estrogen-containing contraceptives (eg, oral pills, patches, vaginal rings).[72,73] Both active IBD and combined hormonal contraceptive use are independent risk factors for VTE; women with active disease or a prior history of thrombosis are at heightened baseline risk owing to chronic inflammation and hypercoagulability.[1,73,74] In such cases, the additional VTE risk conferred by estrogen may outweigh its benefits. There is no evidence that hormonal contraceptive use worsens IBD disease activity.[75-77] To the contrary, in a cross-sectional study including 129 women with IBD, 19% of estrogen-based contraception and 47% of levonorgestrel IUD users reported symptomatic improvement in cyclical IBD symptoms, potentially from suppression of menses and a reduction in prostaglandin-mediated cramping and perimenstrual IBD-related abdominal pain.[27]

Safety and Efficacy of Contraceptive Methods

Combined estrogen-progestin methods (oral pills, transdermal patches, vaginal rings) are effective and generally well tolerated. Pharmacokinetic studies suggest that women with mild UC, as well as those with ileostomies or small bowel resections, achieve comparable serum ethinyl estradiol levels to healthy controls, supporting the efficacy of oral contraceptives in those with quiescent or mild disease.[77] However, in situations where rapid transit is a concern, nonoral routes, transdermal or vaginal, may be preferred to ensure durable efficacy. There are no known drug interactions between hormonal contraceptives and IBD-specific therapies.[78]

Progestin-only methods—including oral pills, implants, and levonorgestrel-releasing IUDs—are highly effective and eliminate the estrogen-associated thrombotic risk, making them an attractive option for women with IBD.[79] IUDs and subdermal implants offer the highest contraceptive efficacy and are recommended as first-line options.[80] These methods avoid systemic hormonal exposure and do not increase thrombotic risk. The primary IBD-specific consideration is potential technical difficulty with insertion in women with extensive pelvic surgery or

perianal CD because of scarring or pain. Depot medroxyprogesterone acetate injections should be used cautiously in patients at increased risk for osteoporosis, given their known effect on BMD.[81] In summary, contraceptive counseling in women with IBD should be individualized with careful consideration of disease activity, thrombotic risk, and the patient's preferences and anatomy.

Navigating Pregnancy

Pregnancy is one of the most significant physiologic challenges the human body undergoes, involving profound adaptations across maternal organ systems.[82] Achieving disease remission prior to conception and maintaining tight control throughout pregnancy is critical for optimal maternal and neonatal outcomes.[83,84] Active IBD during pregnancy significantly increases the risk of adverse outcomes, including miscarriage, preterm birth, and low birth weight, with active disease associated with up to a threefold greater risk compared with remission.[85] Some women and/or families opt to discontinue IBD medications during pregnancy or breastfeeding owing to concerns of fetal or infant harm, which can lead to loss of response and postpartum relapse.[84] Counseling women and families prior to conception that maintaining IBD therapy through pregnancy and postpartum is usually the safest option for both mother and infant can avert self-discontinuation. Extensive evidence supports the safety of biologic agents during pregnancy; for instance, the Pregnancy in Inflammation Bowel Disease and Neonatal Outcomes registry demonstrated no increased risk of birth defects, pregnancy complications, or infant health concerns related to biologic exposure.[83] An international consensus statement recommends continuing biologics during pregnancy to sustain remission, as uncontrolled maternal disease presents greater risks than medication exposure.[86]

Mode of Delivery and Postpartum Management

Current evidence suggests mode of delivery may not notably change the course of IBD in women. In a study of 61 pregnant women with perianal CD, there were no differences in the incidence of perianal disease flares within 1 year postpartum between those who delivered vaginally and those who underwent cesarean delivery.[87] It is important to tailor decisions regarding mode of delivery to a woman's anatomy, surgical history, and ability to tolerate risks of vaginal delivery. Additionally, common postpartum issues such as hemorrhoids and anal fissures, affecting up to 40% of postpartum women, should be considered.[88]

Postpartum Disease Activity and Flares

The postpartum period is a time of immune modulation and rapid hormonal shifts as well as tremendous stress, all of which can influence IBD activity. Current literature reports that one-third of women experience IBD flares in the months after delivery.[89] Although the mechanisms for this are not clearly outlined, a rapid decrease in hormones and the stress of childbirth may be contributing factors. If IBD medications were held during pregnancy, close monitoring and reinitiation soon after delivery are critical.

Mental Health in the Postpartum Period

Women with IBD may have an elevated risk of postpartum depression and anxiety compared with the general population. In a population-based cohort study of 802,629 women with singleton live births, new-onset mental illness, from conception to 1 year postpartum, occurred in 23% of women with IBD vs 20% without IBD (adjusted hazard ratio [aHR], 1.12; 95% CI, 1.05-1.20), with 1 excess case per 43 pregnancies in IBD. Factors that increased risk were being postpartum (aHR, 1.20; 95% CI, 1.09-1.31) and having CD (aHR, 1.12; 95% CI, 1.02-1.23). The risk of new-onset affective mood disorders was significantly higher during the early postpartum period (0-90 days) compared with the later postpartum period (91-365 days). Notably, the increased risk for mental illness was observed after delivery but not during pregnancy, suggesting the postpartum hormonal adjustments and the challenges of newborn care may be significant contributors.[90] Routine postpartum screening for depression is essential for all women, especially those with IBD. Recognizing the importance of mental health in the fourth trimester (the first 3 months after an infant is born) allows for more holistic care, improving outcomes for both mother and infant.

Pelvic Floor Health

Pelvic floor disorders, which can result in fecal and urinary incontinence, undermine quality of life. Traditional risk factors include obesity, mode of delivery, advanced age, and menopause.[91] Women with IBD have additional risk factors such as perianal disease, and those with an ileoanal pouch may be at higher risk for postpartum fecal incontinence after a vaginal birth.[92,93] Early pelvic floor physical therapy postpartum can be beneficial, even for those who had a cesarean delivery, as pregnancy itself and IBD flares can weaken the pelvic floor.[47]

Menopause and Inflammatory Bowel Disease

Menopause marks the last significant change in a woman's hormonal milieu, and it may influence IBD. During perimenopause, estrogen and progesterone levels fluctuate and ultimately decline, which might affect immune function and gut physiology.[94] The loss of estrogen in menopause may remove this anti-inflammatory effect,[95]

potentially worsening IBD activity for some women. In an Internet-based cohort, 65% of women with IBD reported no changes in IBD symptoms with menopause, while 16% noted symptom improvement. Those reporting worsening (19%) were diagnosed with IBD at an older age, suggesting that age and hormonal environment at diagnosis might play a role.[95] Another study noted that CD patients had an average menopause about 2 years earlier than healthy women (48 years vs 50 years), suggesting that CD may be associated with earlier ovarian aging.[96] Chronic systemic inflammation has been postulated to accelerate ovarian follicular depletion in IBD, potentially contributing to earlier onset of menopause.[97] These findings suggest that menopause can alter the course of IBD in unique ways and warrant further investigation.

Physiologically, menopause can affect the GI tract by reducing gut motility and altering the microbiome because of the loss of estrogen.[98,99] Some menopausal women with IBD may experience new GI symptoms that need to be distinguished from IBD activity. Fiber (as tolerated), hydration, and osmotic laxatives are often effective.[100] Additionally, systemic changes like increased visceral fat and metabolic shifts might exacerbate underlying inflammation indirectly.[101]

Bone Health and Osteoporosis Risk

Although all women are at an increased risk for bone thinning, women with IBD are at an elevated risk. Before menopause, the protective effect of estrogen and relatively higher activity of bone-forming cells help mitigate some damage from corticosteroid-induced trabecular bone loss.[102,103] Women with IBD have a greater risk for lower BMD even in premenopausal years, especially with a history of corticosteroid use or vitamin D deficiency.[103] After menopause, bone resorption accelerates markedly. Thus, postmenopausal women with IBD are a high-risk group for osteopenia, osteoporosis, and fractures.[104] Bone health screening should be a routine part of managing perimenopausal women with IBD.[63]

Guidelines recommend bone densitometry for women with IBD who are perimenopausal or who have other risk factors (corticosteroid use >3 months, history of fractures, very low body mass index) regardless of age.[105] It is important to recognize that this may be before 65 years, the age at which routine screening is recommended. Ensuring adequate calcium (1200 mg/d) and vitamin D (at least 800 IU/d or as needed to maintain 25-hydroxyvitamin D in the target range) is crucial.[104,106] Weight-bearing exercise and resistance training should be encouraged to maintain bone strength. Consultation with a primary care provider or endocrinologist is critical for those who may benefit from pharmacologic therapy for osteopenia and osteoporosis.[104,106] It is important to remind the patient and their osteoporosis medication prescriber that IBD should not be a reason to withhold osteoporosis therapy.

Hormone Replacement Therapy

HRT is prescribed to alleviate menopausal symptoms and reduce the risk of osteoporosis.[107] Epidemiologic data raised concerns that exogenous estrogen might influence IBD pathogenesis. One analysis from the Nurses' Health Study demonstrated that postmenopausal HRT use was associated with a 70% increased risk of developing UC among ever-users compared with never-users, although no association was observed with CD.[63] However, these associations pertain to incident IBD risk only. Clinical considerations for women with established IBD shift toward the impact of HRT on disease activity vs symptom burden.

Evidence from small retrospective studies suggests that HRT may have a favorable effect on disease control in postmenopausal women with IBD. In a retrospective study of 65 women, HRT use was associated with a significantly reduced risk of IBD activity (HR, 0.18; 95% CI, 0.04-0.72), with a dose-dependent protective effect observed with longer duration of use (HR, 0.20; 95% CI, 0.07-0.65). Additionally, HRT may improve quality of life by alleviating menopausal symptoms (such as vasomotor instability and mood changes) that overlap or exacerbate IBD, potentially enhancing adherence and disease self-management.[107] In a case-control study of 37 postmenopausal women with IBD, HRT users had a 5.6-fold higher odds of symptom improvement (95% CI, 1.6-19.7).[108] Studies of the effects of HRT in women with IBD are small and inconclusive to date; there is no evidence that IBD should influence the decision to begin HRT.

Managing Postmenopausal Symptoms

Menopause introduces a range of symptoms that can significantly impact quality of life.[109] Vaginal dryness, atrophy, and dyspareunia are common and may be exacerbated by corticosteroid use or preexisting sexual dysfunction from IBD. These changes can also predispose to recurrent urinary tract infections. Local estrogen therapy such as vaginal creams, rings, or tablets has been shown to safely and effectively treat vaginal atrophy with minimal systemic absorption, making it suitable for IBD patients not on systemic HRT.[100] Urinary frequency and urgency may increase owing to urogenital atrophy and pelvic floor changes.[100] In women with IBD, distinguishing these symptoms from diarrhea or pelvic floor dysfunction is important. Urogynecologic evaluation may be needed, and treatment may include pelvic floor therapy or medications.

Cardiovascular Risk Considerations

All postmenopausal women experience an increase in

cardiovascular disease (CVD) risk partly because of loss of estrogen's cardioprotective effects. IBD itself has been linked to accelerated atherosclerosis.[110] Therefore, menopausal women with IBD could have an additive risk for cardiovascular conditions like coronary artery disease and stroke. In the Women's Health Initiative cohort of 134,022 postmenopausal women, those with IBD had a 41% age-adjusted increased risk of ischemic stroke (95% CI, 1.06-1.88) compared with women without IBD; however, this was no longer significant after adjustment for socioeconomic factors and comorbid conditions (HR, 1.31; 95% CI, 0.98-1.76).[111] Nonetheless, chronic inflammation in active IBD contributes to a prothrombotic state and endothelial dysfunction, underscoring the importance of cardiovascular risk management.[112] Future studies are needed to elucidate the comparative risk of CVD in postmenopausal women with IBD vs those without, accounting for both traditional and disease-specific risk factors to better guide prevention and management strategies in this population.

Conclusion

Women with IBD face unique challenges across their lifespan that extend beyond reproduction. Delayed puberty, menstrual irregularities, fertility and postpartum concerns, and menopause are phenomena specific to women that may influence or be influenced by IBD. It is essential to acknowledge and validate the experiences of women who perceive a bidirectional relationship between hormonal changes and IBD symptoms. We highlight the importance of transdisciplinary care integrating gastroenterologists, gynecologists, endocrinologists, and mental and sexual health specialists to address the complex and interrelated health needs of women with IBD. Despite women comprising half the population of people with IBD, issues specific to women, beyond pregnancy and lactation, remain markedly understudied. In-depth, high-quality research into sex-specific phenomena is essential to improving the quality of life and clinical care for women with IBD.

Disclosures

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