DECISIONS

A 29-year-old woman with Crohn disease considering pregnancy

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A 29-year-old woman with Crohn disease (ileal involvement with perianal disease) presents to her primary care physician for preconception counselling. She is taking azathioprine and infliximab (an anti–tumour necrosis factor [TNF] medication) for her Crohn disease. She is concerned about potential effects of her medications on fertility and pregnancy.

What should the patient be told about disease activity and pregnancy?

A recent guideline from the European Crohn's and Colitis Organisation (ECCO) and expert opinion recommend that patients with inflammatory bowel disease (IBD) be in remission for at least three months before attempting to conceive.[1,2] There is an increased risk of infertility with active Crohn disease (adjusted fertility rate ratio 0.70, 95% confidence interval 0.59–0.82).[3] A recent meta-analysis reported that patients with active disease before conception have a twofold increased risk of active disease during pregnancy.[4] A large registry cohort study involving 470 110 births confirmed that active Crohn disease during pregnancy is associated with an increased risk of stillbirth (adjusted odds ratio [OR] 4.48), preterm birth (adjusted OR 2.66) and low–birth weight infants (adjusted OR 3.30).[5]

What questions should be asked to assess disease activity?

Clinical disease activity scales, such as the Harvey–Bradshaw Index (Box 1),[6,7] can help guide the practitioner in determining whether the patient has clinically active disease. However, data are lacking on use of the Harvey–Bradshaw Index during pregnancy.

What tests should be arranged to assess disease activity?

Objective assessment of disease activity includes laboratory tests that assess nutrition, including hemoglobin level, mean corpuscular volume, iron studies (i.e., ferritin, iron, total iron-binding capacity and iron saturation), and vitamin B_{12}, vitamin D and albumin levels; and inflammation, including C-reactive protein (CRP) level, leukocyte level and platelet count.[7] Changes in these values with clinical correlation provide information about disease activity.[7] Some of these markers may change owing to pregnancy (e.g., decreases in hemoglobin level, increases in CRP level), and thus clinical correlation is required. Increased fecal calprotectin, a marker of neutrophils in the stool, has been shown in multiple studies to correlate with disease activity,[7] although the test characteristics during pregnancy are being studied.

Computed tomography can be used preconception, and magnetic resonance imaging and ultrasonography during pregnancy, to assess luminal disease activity. If required, endoscopic evaluation with flexible sigmoidoscopy or colonoscopy has been shown in case series to be safe during pregnancy when performed in a monitored setting.[8]

What should the patient be told about continuing to take azathioprine and infliximab?

A recent systematic review and meta-analysis confirmed no increased adverse pregnancy outcomes in women with IBD treated with azathioprine and infliximab.[9] However, because anti-TNF is an immunoglobulin G monoclonal antibody that starts to cross the placenta in the second trimester, a guideline and expert opinion recommend that the last dose of anti-TNF medication be given by 22 weeks gestational age to limit exposure to the fetus in selected cases of sustained maternal remission.[1,9] However, experts recommend continuation of anti-TNF medication throughout pregnancy if required to control disease.[1,2,9–11]

What should the patient be told about delivery method and postpartum management?

Women with Crohn disease can have vaginal delivery; however, the ECCO guideline recommends that women with active perianal Crohn

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The clinical scenario is fictional.

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disease avoid vaginal delivery owing to the risk of worsened perianal disease.[1] Women with IBD should be referred for high-risk obstetric consultation and closely followed by an obstetrician and a gastroenterologist throughout pregnancy and peripartum.[1,2]

Box 1: Harvey–Bradshaw Index for Crohn disease[6,7]

Symptom	Score
General well-being	
Very well	0
Slightly below par	1
Poor	2
Very poor	3
Terrible	4
Subtotal	
Abdominal pain	
None	0
Mild	1
Moderate	2
Severe	3
Subtotal	
No. of liquid or soft stools per day	
Subtotal	
Additional manifestations	
None	0
Arthralgia	1
Uveitis	1
Erythema nodosum	1
Aphthous ulcer	1
Pyoderma gangrenosum	1
Anal fissure	1
New fistula	1
Abscess	1
Subtotal	
Abdominal mass Was examination for abdominal mass performed?	
No: provide SUBSCORE only at end	
Yes: provide SUBSCORE and TOTAL at end	
None	0
Dubious	1
Definite	2
Definite and tender	3
Subtotal	
SUBSCORE (without abdominal examination)	
TOTAL score (sum of all subtotals)	

Guidelines recommend that infants who were exposed to anti-TNF medication during gestation should not receive any live vaccinations until at least six months of age, because measurable anti-TNF medication levels have been reported in these infants.[1,10,11]

The case revisited

On assessment, the patient had a score of seven on the Harvey–Bradshaw Index, an elevated CRP level of 25 mg/L, and an elevated fecal calprotectin level of 1000 μg/g, indicating moderately severe Crohn disease. Magnetic resonance enterography and colonoscopy revealed 10 cm of moderately active distal ileum disease. The patient's azathioprine was continued, her infliximab dose was increased and she was started on prednisone. She tapered off prednisone within three months and remained in clinical and biochemical remission. She became pregnant four months later, was monitored during pregnancy by the high-risk obstetrician and her gastroenterologist, and delivered a healthy baby.

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