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Chapter 6

Pregnancy and Delivery of Women with IBD

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Abstract

We provide a basic overview of inheritance, fertility and influence of IBD and pregnancy, therapy in pregnancy and childbirth options. A crucial factor for good results is the degree of inflammation at the time of conception and during pregnancy. If the disease is inactive, there is no decrease in fertility and no greater risk of deterioration of disease in pregnancy and pregnancy does not differ from the normal population. The opposite situation occurs if there is a pregnancy at the time of disease activity. Then, in up to 75% of pregnancy courses with big problems, fertility declines, inflammation also worsens and the risk of exacerbations increases during pregnancy. This aggravates the course of pregnancy and childbirth and has a negative effect on the fetus. Therefore, it is necessary to plan for a longer period of disease stabilization and continue chronic medication and not discontinue drugs for the fear of negative impact of medications on fetal development. Commonly used drugs such as aminosalicylates, corticosteroids, immunosuppressants and biological therapy appear to be safe and well tolerated during pregnancy. The method of delivery is different for each individual and depends on the form and location of the inflammation and the preceding operations.

Keywords: inflammatory bowel disease, Crohn's disease, ulcerative colitis, pregnancy, childbirth, breastfeeding

1. Introduction

Inflammatory bowel disease (IBD) is a chronic bowel inflammation of unknown origin, which includes Crohn's disease (CD) and ulcerative colitis (UC). The incidence in our population has increased, the incidence of UC is 10.4/100,000 and the incidence of CD is 5.6/100,000. IBD affects young adults in their fertile age, 50% of patients are diagnosed under the age of 35 and

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a quarter of patients get pregnant after they have been diagnosed with IBD. Young women are often concerned about the effect of IBD on their fertility, development of the fetus and as well about the effect of the pregnancy on their disease. They are interested in the effect of the chronic medication used during the pregnancy, management of the birth and possibility of breastfeeding. In the past, patients have been advised not to get pregnant, existing strategies of treating IBD makes the pregnancy possible and safe for the mother and the child.

2. Genetics and IBD

IBD is multifactorially determined. The risk for a child with a parent with an IBD is 2–13 times higher than the risk in the normal population [1]. A child of a parent with IBD has a 5% risk for CD and a 1.6% for UC. If both parents have IBD, the risk increases up to 37% [2, 3].

3. Fertility and IBD

Infertility of women with IBD ranges between 7 and 12%, which is in line with the normal population [4–7]. The fertility can decrease with the following conditions:

- An active inflammation (can affect the Fallopian tubes and the ovaries, in the perianal area it can cause dyspareunia)
- Surgery before the pregnancy (IPAA—ileo pouch anal anastomosis—is connected with lower fertility because of scarring in the area around the adnexae)
- Medication that affects men's fertility such as methotrexate, sulfasalazine [1, 9, 10]

4. The effects of IBD on pregnancy

Multiple studies on the effects of IBD on pregnancy, development and growth of the fetus, have come to a conflicting conclusions most likely due to disparate conditions of the individual studies. All the studies agree that the key factor for a successful pregnancy is a function of whether the disease is active at the time of conception. Patients with an inactive IBD (minimum 12 months without clinical, laboratory and endoscopic signs of an active inflammatory process) are not in a higher risk of bad perinatological results. On the other hand, if the disease is active, up to 75% of pregnancies are connected with a high number of problems and relatively high risk of abortion, preterm birth or hypotrophy of the fetus. Therefore, it is necessary to plan the pregnancy while the disease is in remission [1, 4–6, 8]. The activity of the disease at the time of conception leads to a higher risk of fetal loss and preterm deliveries. Also, activity of the disease during the pregnancy is associated with lower fetal weight and as well with a preterm delivery [1, 3, 8, 9, 10]. Pregnancy loss affects 12.2% of patients with IBD as compared to 9.9% in the normal population. Miscarriages are more common in cases where

the patient has an intestinal resection before the pregnancy. The length of the resected tissue and activity of the disease are proportional to a higher risk of miscarriage [6]. The percentage of preterm deliveries (<g.h. 37) is around 8% in the Czech Republic in the normal population, studies describe higher risk of preterm deliveries in the group of people with IBD, the risk is 1.87 times higher, which is 11.5–16% [6]. The risk of low fetal weight (<2500 g) is two times higher, which is explained by undernourishment of the mother in the time of relapse, especially if there are repeated exacerbations in the course of the pregnancy. This occurs more often in diseased with the CD than the UC, Although some studies have found a connection between congenital malformations (especially a cleft palate and malformations of the urinary tract) and the mother's UC, this suspicion was not confirmed in extensive studies. Most of the studies show that IBD is not connected with a risk of congenital malformations. The rate of malformations ranges between 1 and 4.8% of newborns, which is the same range as in the normal population. More serious malformations were more often found in a group with a severe course of the disease during the pregnancy compared to the ones in relapse. After considering the grade of disease, no study was able to prove that any medication used (corticoids, azathioprine and mesalazine) affects the result of pregnancy [5].

5. The effect of pregnancy on IBD

There is no proof to suggest that pregnancy worsens the disease; therefore, there is no reason to end the pregnancy. On the contrary, there are studies that have demonstrated positive effects and long-term improvement of IBD (impact of the pregnancy on the immune system) shown decrease of relapses in the following 3 years [2]. Development of IBD during the pregnancy is correlated with the activity of disease at the time of conception. If the disease is inactive at the time of conception, then the pregnancy goes without bigger problems in the majority of the diseased, only around one-third of patients have a relapse during the pregnancy, which is the same number as in a group of nonpregnant women in the course of 9 months. In two-thirds of the patients, the disease stays in inactive state during the whole pregnancy [1, 4, 6, 8]. On the other hand, if the IBD is active at the time of conception, two-thirds of the patients have a persistent disease and even an aggravation of the disease. Therapy plays an important role in pregnancy by keeping the disease in remission; therefore, it is recommended that the therapy should not be stopped due to the fear of side effects to pregnancy.

6. Therapy in pregnancy

The majority of the drugs used for the treatment of IBD are considered to be safe during the pregnancy and breastfeeding [3]. Analysis of 19 retrospective studies has shown that the medication commonly used for therapy of IBD (aminosalicylates—ASA, corticoids, immunosuppressants and immunotherapy) does not significantly increase the incidence of stillborn, ectopic pregnancy, hypotrophy of the fetus or miscarriage. While using these drugs, the congenital

anomalies were more often seen, which is probably connected to the activity of the disease and not to the therapy. Both methotrexate and thalidomide are clearly contraindicated [1].

If the therapy is able to keep the disease inactive, it is recommended not to stop and continue the therapy during the whole pregnancy because the benefits outweigh the risks of the conservative therapy and the danger of relapse after completing the therapy.

7. The mode of delivery

The percentage (44%) of the Cesarean section is higher in the group of patients with IBD than in normal population [3]. Recent population studies from Sweden have shown that women with the UC without any surgery in the past had two times higher risk of elective Cesarean section, even though vaginal birth is the safest way for the mother and the child. Additional studies have also shown that the Cesarean sections are mostly performed on the basis of patient's or the doctor's preference, but not from a real indication. Even though some doctors think that all the patients with IBD should have a Cesarean section, it seems reasonable to make the vaginal birth possible for the women with inactive or in the moderate stage of the disease. The decision about the mode of the delivery should be strictly individual and it should be an agreement among the mother, the obstetrician, the gastroenterologist and the surgeon [6].

Cesarean section is definitely indicated when there is an active perianal disease with abscesses and fistulas or active rectal disease (proctitis in UC and CD) with consideration of the protection of the anal sphincter. IPAA or ileorectal anastomosis is considered as a relative indication for the Cesarean section, the guidelines about the mode of delivery after IPAA are not uniform, and both ways are described. With a consideration of a protection of the anal sphincter and keeping the pouch continence, the Cesarean section is preferred. Patients with the IPAA have, due to the surgery, a border continence of stool and that is closely related to an intact sphincter and the function of the pelvic floor. The function of the pouch is affected already in the third trimester and it goes back to the original shape during 6 months after the delivery. In the vaginal birth, the pudendal nerves can be affected due to the pressure in the second stage of labor or in the forceps delivery, which can lead to more frequent stools. In the long-term observation (5 years), it is observed that after the vaginal birth, the function of the pouch worsens faster especially in the births with the higher risks of obstetric injuries (instrumental labor, episiotomy, the fetal weight above 4000 g, emergent Cesarean section, second stage of labor longer than 2 h) In the majority of the patients, the primary Cesarean section is chosen. Other reason for that is as well the emergency Cesarean section from the obstetrics indication can be very risky because of abdominal adhesions after previous surgeries [1, 3, 9, 10]. Vaginal birth should be allowed only to women without the signs of rectal and perianal forms of the disease [6]. Traumatic changes of the perianal area can be a cause of long-term festering complications or fistulas, preforming of episiotomy can induce the perianal lesions in the future course of the disease in 20% [5]. If the woman with IBD has a vaginal birth, it is appropriate to avoid episiotomy; however, it is better to perform an episiotomy than a spontaneous uncontrollable

damage. Vaginal birth is also possible in the patients with colostomy or ileostomy and it is not associated with a higher risk of the complications with the stomies [1, 6].

8. Conclusion

IBD affects women in the fertile age with consequences to their fertility, pregnancy and breastfeeding. The disease and the pregnancy affect each other, and the development of the disease and the pregnancy is determined by the activity of inflammation at the time of conception. Patients who are in remission at the time of conception will most likely stay in the remission during the pregnancy. On the other hand, 70% of the patients with an active inflammation at the time of conception will stay in that shape or even get worse during the pregnancy. Women with an active IBD are at a higher risk of adverse results of the pregnancy, whereas the women with inactive disease can expect normal course and good results of the pregnancy. That is why it is crucial to plan their pregnancy during remission, and not to cut out the anti-inflammatory and immunosuppressant therapy put in place before the pregnancy. Most of the medication used in treatment of IBD is considered to be safe at the time of pregnancy and breastfeeding, but more studies are needed. Patients with IBD can have vaginal delivery, whereas patients with the perianal lesions, patients with affected rectum and patients after the reconstructive surgery with IPAA should deliver by the Cesarean section.

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