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Immune-mediated Diseases in Pregnancy

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Introduction

When the immune system malfunctions, inflammation or pain develops in the joints, muscles, heart, lungs, kidneys, and skin. Women with these diseases have been advised to avoid pregnancy for decades due to the dangers of miscarriage, preterm labour, and preeclampsia, pregnancy-induced high blood pressure. Many women with autoimmune diseases can now have safe and successful pregnancies with proper medical treatment and counselling before and after giving birth. There are various forms of autoimmune illnesses, and each has a different impact on a pregnancy. Rheumatologists, maternal–fetal medicine experts, and obstetricians from NYU Langone collaborate to help you manage these diseases during pregnancy. If you have any of these conditions and are thinking about becoming pregnant, our doctors can help you assess the risks and determine what precautions you should take.

Tissue damage is a hallmark of autoimmune illnesses, which is induced by the immune system's self-reactive effector mechanisms, such as antibodies and T cells. Their incidence may be linked to genetic and/or environmental factors, and they may have ramifications for fertility and obstetrics to some extent. Autoimmunity and reproduction have a bidirectional link. This review solely looks at how pregnancy affects autoimmune illnesses, not how autoimmunity affects pregnancy development [1].

Description

Pregnancy with a systemic lupus erythematosus

The immune system, which is supposed to battle viruses and germs, assaults healthy tissue in systemic lupus erythematosus, or lupus. This causes inflammation and, over time, damage to tissues throughout the body. The skin, joints, kidneys, blood cells, blood arteries, lungs, and brain can all be affected by lupus. Fatigue, aching and swollen joints, skin rashes, and unexplained fevers are common symptoms. Pregnancy in women with lupus was once assumed to be harmful to both the mother and the baby, but this has subsequently been proven untrue. In truth, if a woman is in remission—when her symptoms have subsided or disappeared entirely—and seeks medical advice before conceiving, she can have a healthy pregnancy [2].

Pregnancy and rheumatoid arthritis

Rheumatoid arthritis is a kind of arthritis that affects the lining of the joints and produces inflammation. In this disorder, the immune system, which normally fights viruses and bacteria, assaults healthy cells in the ankles, feet, wrists, hands, elbows, knees, and spine, resulting in inflammation, joint and bone deterioration, discomfort, and swelling. Some medications used to treat this condition might cause birth abnormalities or premature labour, so if you have rheumatoid arthritis, you should visit a rheumatologist before getting pregnant. Rheumatoid arthritis symptoms improve in more than half of pregnant women. Experts aren't sure why, but crucial signs point to genes in both the mother and the child [3].

Antiphospholipid syndrome (APS)

Antiphospholipid syndrome, which causes blood clots to form too easily or too frequently during pregnancy, might result in the following symptoms:

- Stillbirth or a miscarriage
- Preeclampsia (high blood pressure) (a type of high blood pressure that occurs during pregnancy)
- A foetus who might not develop normally (small for gestational age)

Doctors do the following tests to identify antiphospholipid syndrome:

- Inquire about any unexplained stillbirths or miscarriages, early births, or blood clot issues that women have experienced.
- At least two times, test your blood for antiphospholipid antibodies.
- Doctors can make an antiphospholipid syndrome diagnosis using this information

Anticoagulants and low-dose aspirin are commonly given to women who have antiphospholipid syndrome during pregnancy and for 6 weeks following birth. This kind of therapy can help you avoid getting sick [4].

Corticosteroids, such as prednisone, can help pregnant women with immune thrombocytopenia increase the amount (count) of platelets and thereby improve blood coagulation. However, only approximately half of the women benefit from this improvement. Prednisone also increases the chances of the foetus not growing as much as predicted or being born prematurely.

High dosages of immune globulin may be given intravenously to women with dangerously low platelet counts shortly before delivery. Immune globulin (antibodies derived from the blood of people with a healthy immune system) improves blood clotting by temporarily increasing platelet count. As a result, labour can proceed safely, and women can deliver their babies vaginally without experiencing uncontrollable bleeding [5].

Pregnancy and Sjogren's syndrome

The body's white blood cells, which fight illness, target the glands that create moisture, such as those in the eyes and lips, in Sjogren's syndrome. Dry and stinging eyes, dry lips, difficulty swallowing, swollen neck glands, and even vaginal dryness are all symptoms of this illness, which is most commonly diagnosed in women. Blood vessels, the central nervous system, the gastrointestinal system, the kidneys, the liver, the lungs, and the pancreas are all affected. Sjogren's syndrome is a type of autoimmune disease that develops on its own without being caused by another illness. Secondary Sjogren's syndrome occurs in people who already have an autoimmune disease, such as rheumatoid arthritis or lupus [3,4].

Sjogren's syndrome increases the risk of miscarriage in some pregnant women. Women with Sjogren's syndrome who have anti-Ro (SS-A) or anti-La (SS-B) autoantibodies in their blood are more likely to have a kid with congenital heart block, a potentially fatal disorder in which the newborn's heart scars and beats more slowly. If you have these autoantibodies, your baby's heart is examined frequently in the pregnancy with echocardiograms, a procedure that evaluates the heart using sound waves [5].

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T cell-mediated responses to the conceptus are linked to pregnancy

One of the most astounding elements of pregnancy is that women may successfully carry a conceptus, which is similar to an allograft, to full term without rejection.

Although the conceptus/trophoblast does not express HLA class II molecules, it does express HLA class I molecules, including polymorphic HLA-C molecules and non-polymorphic HLA-G and HLA-E molecules. The conceptus has been classified as a semi-allograft due to the presence of paternal class I HLA-C molecules on fetal-derived trophoblast cells that penetrate the maternal decidua basalis. After maternal antigen presenting cells (APCs) present paternal alloantigens, maternal T cells specific for these alloantigens proliferate and secrete cytokines, promoting the activation of allograft rejection or tolerance mechanisms, which are responsible for pregnancy failure or foetal survival, respectively.

Future Prospective

CD4+ T helper cells are important for immune cell homeostasis and host defence, but they also play a role in autoimmune and inflammatory disease pathology. Many more Th subsets have been found since the discovery of the Th1/Th2 dichotomy, each with its own cytokine profile, functional features, and suspected role in autoimmune tissue disease. These T helper subsets produce cytokines, which are generally classified as pro-inflammatory or anti-inflammatory and play an important role in controlling the effector response. The immune response is influenced and shaped by the different T helper subsets in terms of cytokine profiles, which may cause autoimmune and inflammatory disorders.

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Conflict of Interest

The author shows no conflict of interest towards this manuscript.

References

1. Pozzilli, Carlo, and Maura Pugliatti. "An overview of pregnancy-related issues in patients with multiple sclerosis." *Eur J Neurol* 22 (2015): 34-39.

2. Romagnani, Sergio. "T-cell responses in allergy and asthma." *Curr Opin Allergy Clin Immunol* 1 (2001): 73-78.

3. Annunziato, Francesco, Lorenzo Cosmi, Veronica Santarlasci, and Laura Maggi, et al. "Phenotypic and functional features of human Th17 cells." *J Exp Med* 204 (2007): 1849-1861.

4. Engdahl, Cecilia, Caroline Jochems, Sara H. Windahl, and Anna E. Börjesson, et al. "Amelioration of collagen-induced arthritis and immune-associated bone loss through signaling *via* estrogen receptor α, and not estrogen receptor β or G protein–coupled receptor 30." *Arthritis Rheum* 62 (2010): 524-533.

5. Meka, Rakeshchandra R., Shivaprasad H. Venkatesha, Steven Dudics, and Bodhraj Acharya, et al. "IL-27-induced modulation of autoimmunity and its therapeutic potential." *Autoimmun Rev* 14 (2015): 1131-1141.

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