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Managing Pregnancy in Women with Undifferentiated Connective Tissue Disease (UCTD): A Comprehensive Clinical Approach

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Abstract

Undifferentiated connective tissue disease (UCTD) is a systemic autoimmune condition characterized by symptoms overlapping with various connective tissue diseases but not meeting the criteria for a specific diagnosis[1]. In women of reproductive age, UCTD presents unique challenges during pregnancy, including an increased risk of complications such as preeclampsia, miscarriage, and fetal growth restriction[2]. This article reviews the clinical implications of UCTD in pregnancy, discusses associated risks, and provides evidence-based recommendations for managing maternal and fetal health through a multidisciplinary approach.

1. Introduction

UCTD is a heterogeneous autoimmune disorder characterized by overlapping symptoms of connective tissue diseases without fulfilling the diagnostic criteria for a specific disease. It predominantly affects women of reproductive age, making pregnancy management a critical concern[3]. Pregnancy induces significant immunological changes that can exacerbate underlying autoimmune conditions, leading to potential complications. Therefore, a comprehensive and individualized management plan is essential to optimize outcomes for both mother and fetus[4].

2. Pregnancy Complications Associated with UCTD

Pregnancy in women with UCTD carries an increased risk of various maternal and fetal complications. Studies have reported higher incidences of preeclampsia, miscarriage, intrauterine growth restriction, and preterm birth in this population compared to healthy controls[5]. For instance, a study by Castellino et al. found that 39% of women with UCTD experienced complications during pregnancy, including preeclampsia and intrauterine growth restriction. Additionally, a study by Radin et al. highlighted that the presence of

specific autoantibodies, such as anti-Ro and anti-La, is associated with adverse pregnancy outcomes in women with UCTD[6].

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3. Clinical Management Strategies

3.1 Preconception Counseling and Risk Assessment

Prior to conception, a thorough evaluation is essential to assess disease activity and potential risks. Key components include:

- **Autoimmune Panel:** Screening for autoantibodies such as ANA, anti-dsDNA, and antiphospholipid antibodies to evaluate the risk of exacerbations and complications.
- **Renal and Cardiopulmonary Function:** Assessing kidney and heart function to determine the impact of pregnancy on these systems.
- **Medication Review:** Discontinuation of teratogenic drugs and transitioning to safer alternatives.

3.2 Antenatal Monitoring

Regular monitoring is crucial for early detection of complications:

- **Blood Pressure and Urine Protein Tests:** Frequent checks to identify hypertension and preeclampsia.
- **Fetal Ultrasound and Doppler Flow Studies:** Assessing fetal growth, amniotic fluid volume, and placental function.
- **Autoimmune Marker Testing:** Regular testing of autoimmune markers to predict flare-ups and adjust therapy accordingly.

3.3 Medications During Pregnancy

The choice of medication should prioritize maternal and fetal safety:

- **Hydroxychloroquine:** Considered safe during pregnancy and may help reduce the risk of disease flares.Frontiers+1PubMed+1
- **Low-Dose Aspirin:** Recommended for women at high risk for preeclampsia.
- **Corticosteroids:** Used in cases of disease exacerbation, with careful monitoring of maternal and fetal health.
- **Immunosuppressive Therapy:** Tailored to disease activity, used cautiously to avoid fetal harm.

3.4 Delivery Planning and Postpartum Care

The timing and method of delivery should be individualized based on maternal and fetal status. A cesarean section may be necessary in cases of severe preeclampsia, placental insufficiency, or fetal distress. Postpartum monitoring is essential, as women with UCTD are at increased risk for disease flares, particularly within the first 6–12 weeks postpartum. Close follow-up and appropriate treatment are crucial during this period.

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4. Conclusion

Managing pregnancy in women with UCTD requires a comprehensive and individualized approach. Early detection and treatment of complications, along with a multidisciplinary care team, are essential to optimize maternal and fetal outcomes. Continued research is necessary to further understand the implications of UCTD in pregnancy and to refine management strategies.

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