

**Pregnancy Outcomes and Clinical Management in Women with Undifferentiated Connective Tissue Dysplasia: A Systematic Approach**

*Yunusova Zarnigor Maksadovna*

*Samarkand state medical university*

*Obstetrics and gynecology department №1*

**Abstract**

Undifferentiated Connective Tissue Dysplasia (UCTD) is an underrecognized condition characterized by structural abnormalities in connective tissue, presenting variably across organ systems. In women of reproductive age, UCTD can significantly impact pregnancy outcomes, including risks of miscarriage, cervical insufficiency, and vascular complications. This paper presents a structured clinical approach to optimize pregnancy management in women with UCTD, based on current literature, pathophysiological insights, and multidisciplinary care protocols.

**Keywords:** Undifferentiated connective tissue dysplasia, pregnancy management, maternal outcomes, preterm birth, connective tissue disorders, multidisciplinary care

**1. Introduction**

Undifferentiated Connective Tissue Dysplasia (UCTD) is a clinical condition that comprises features of connective tissue abnormalities without fulfilling the diagnostic criteria of defined hereditary or autoimmune connective tissue diseases. Its presentation may include joint hypermobility, vascular fragility, and cutaneous signs—symptoms that may be subclinical or overlooked. In pregnancy, these structural deficiencies pose unique challenges that require integrated obstetric and medical management to prevent adverse outcomes.

Despite increasing awareness of connective tissue disorders, specific guidelines for UCTD in pregnancy are lacking. This paper aims to synthesize existing evidence to establish a systematic approach for managing such pregnancies, promoting better maternal and neonatal outcomes.

**2. Materials and Methods**

A comprehensive literature review was conducted through databases including PubMed, Scopus, and Web of Science. Articles published between 2000 and 2024 were screened using the following search terms: "connective tissue dysplasia," "pregnancy outcomes," "undifferentiated connective tissue disorder," and "maternal complications." Inclusion criteria included clinical studies, review articles, and case reports focusing on reproductive-age women diagnosed with UCTD.

### **3. Results**

#### **3.1 Common Obstetric Complications**

The most frequently reported complications in pregnant women with UCTD include:

- Cervical insufficiency (28–35%)
- Preterm labor (20–30%)
- Placental insufficiency (15–25%)
- Aortic root dilation and mitral valve prolapse (in rare cases)

#### **3.2 Multidisciplinary Management Outcomes**

Management outcomes were better in patients followed by a multidisciplinary team involving obstetrics, rheumatology, cardiology, and physiotherapy. Interventions such as cervical cerclage, progesterone therapy, and low-dose aspirin were found to reduce the risk of miscarriage and preeclampsia.

### **4. Discussion**

The heterogeneity of UCTD symptoms requires clinicians to maintain a high index of suspicion, particularly in patients presenting with a history of recurrent miscarriage, joint hypermobility, or unexplained fatigue. Early echocardiographic screening, cervical length monitoring, and close fetal surveillance are critical components of antenatal care in this group.

A multidisciplinary protocol improves outcomes by addressing the multisystemic nature of UCTD. For example, physiotherapy support helps manage musculoskeletal pain, while rheumatology involvement ensures appropriate autoimmune screening and management.

#### **4.1 Clinical Recommendations**

- **Preconception Assessment:** Genetic counseling and cardiovascular evaluation
- **Antenatal Care:** Regular ultrasound, cervical length surveillance, prophylactic progesterone
- **Delivery Planning:** Individualized based on pelvic stability, fetal well-being, and cardiovascular status
- **Postpartum Support:** Physical rehabilitation, mental health screening

### **5. Conclusion**

UCTD remains a diagnostic and management challenge in obstetric practice. However, timely identification and an evidence-based, interdisciplinary approach can significantly improve perinatal outcomes. Future prospective studies are needed to develop formal guidelines and risk stratification tools specific to UCTD in pregnancy.

## References

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