

# DOES THE DEGREE OF MARGINAL PLACENTAL CORD INSERTION MATTER?

## A prospective cohort study on the perinatal outcome of pregnancies affected by marginal placental cord insertion

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### BACKGROUND

- Marginal cord insertion is traditionally defined as PCI within 2cm of the placental edge
- Whether MCI diagnosed antenatally is associated with adverse perinatal outcomes remains uncertain

### OBJECTIVE

- To determine whether MCI detected at the mid-trimester ultrasound scan is associated with adverse perinatal outcomes

### METHODS

Prospective cohort study

Women attending mid-trimester anomaly scan between 19 to 22 weeks of gestation

Placental cord insertion assessed by ultrasound providers

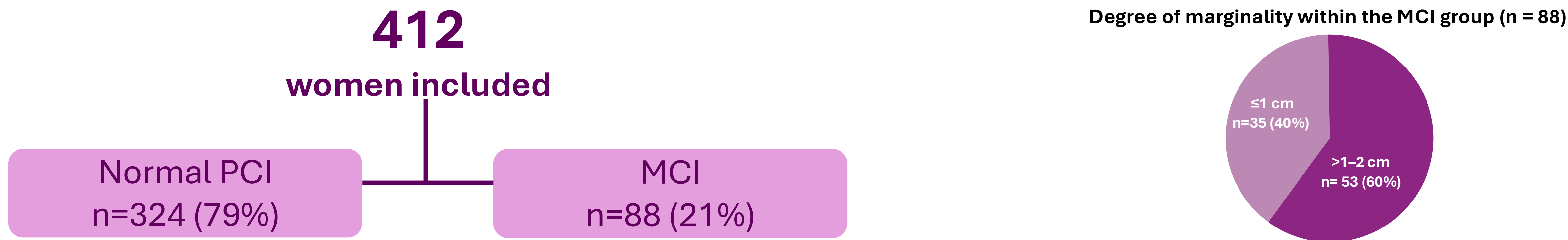
Perinatal outcome collected and compared between groups with normal PCI and MCI

### Primary Outcomes

- Gestational age at delivery
- Birth weight
- Birth weight centile
- Mode of delivery

### RESULTS

#### Study Cohort



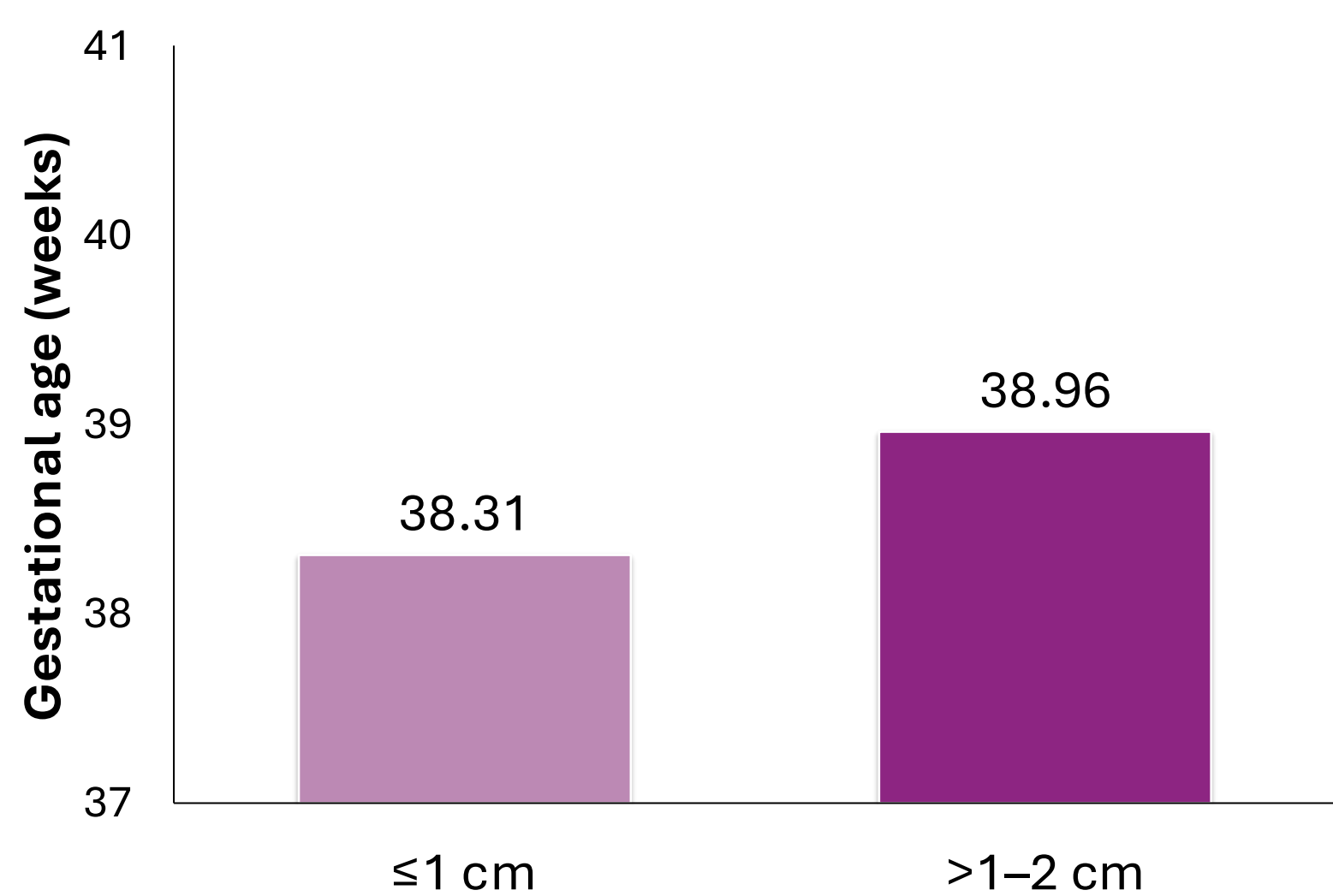
#### 1. Normal PCI vs MCI (≤2cm)

##### No significant differences in perinatal outcomes

|                                            | Normal PCI (>2cm)<br>n=324 | MCI (≤2cm)<br>n=88 | p value |
|--------------------------------------------|----------------------------|--------------------|---------|
| Mean gestational age at delivery (weeks)   | 38.58                      | 38.70              | 0.603   |
| Mean birth weight (g)                      | 3048                       | 3074               | 0.666   |
| Mean birth weight centile                  | 43.99                      | 44.72              | 0.823   |
| Operative delivery due to abnormal CTG (%) | 13.6                       | 11.4               | 0.585   |

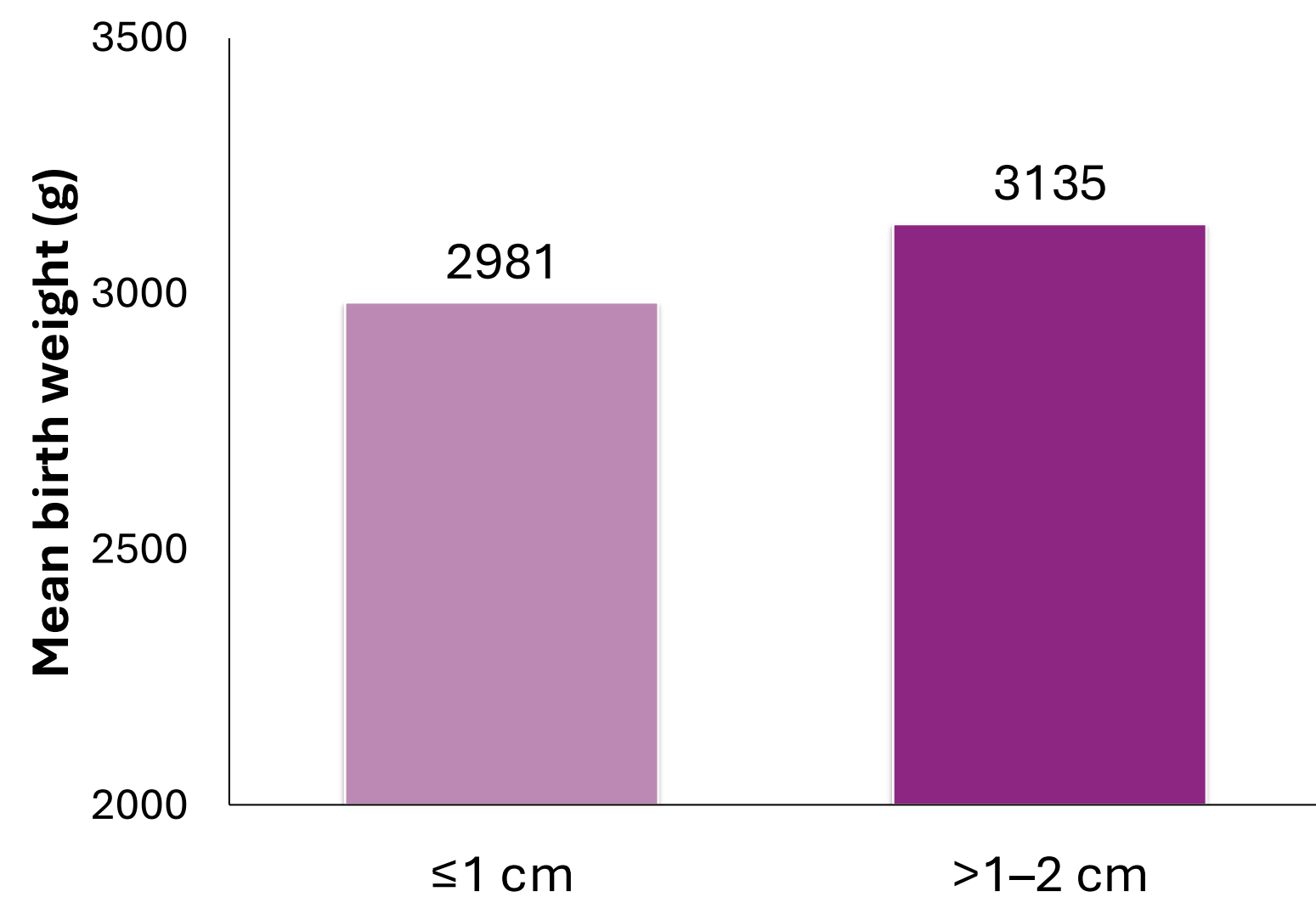
#### 2. Does the degree of marginality matter within the MCI Group?

Mean Gestational age at delivery (weeks)



Earlier mean gestational age at delivery  
- 0.65 weeks  
p=0.036\*

Mean birth weight at delivery (g)



Trend towards a lower birth weight  
Mean difference: -154g  
p=0.072

### CONCLUSION

- MCI defined as PCI-to-placental edge ≤2cm was not associated with adverse perinatal outcomes
- Within the MCI group, PCI-to-placental edge ≤1cm was associated with **earlier delivery** and **a trend towards lower birth weight**
- The degree of marginality may indicate varying level of risks towards adverse perinatal outcomes
- Further research is warranted to validate whether a **narrower threshold** of defining MCI can improve risk stratification

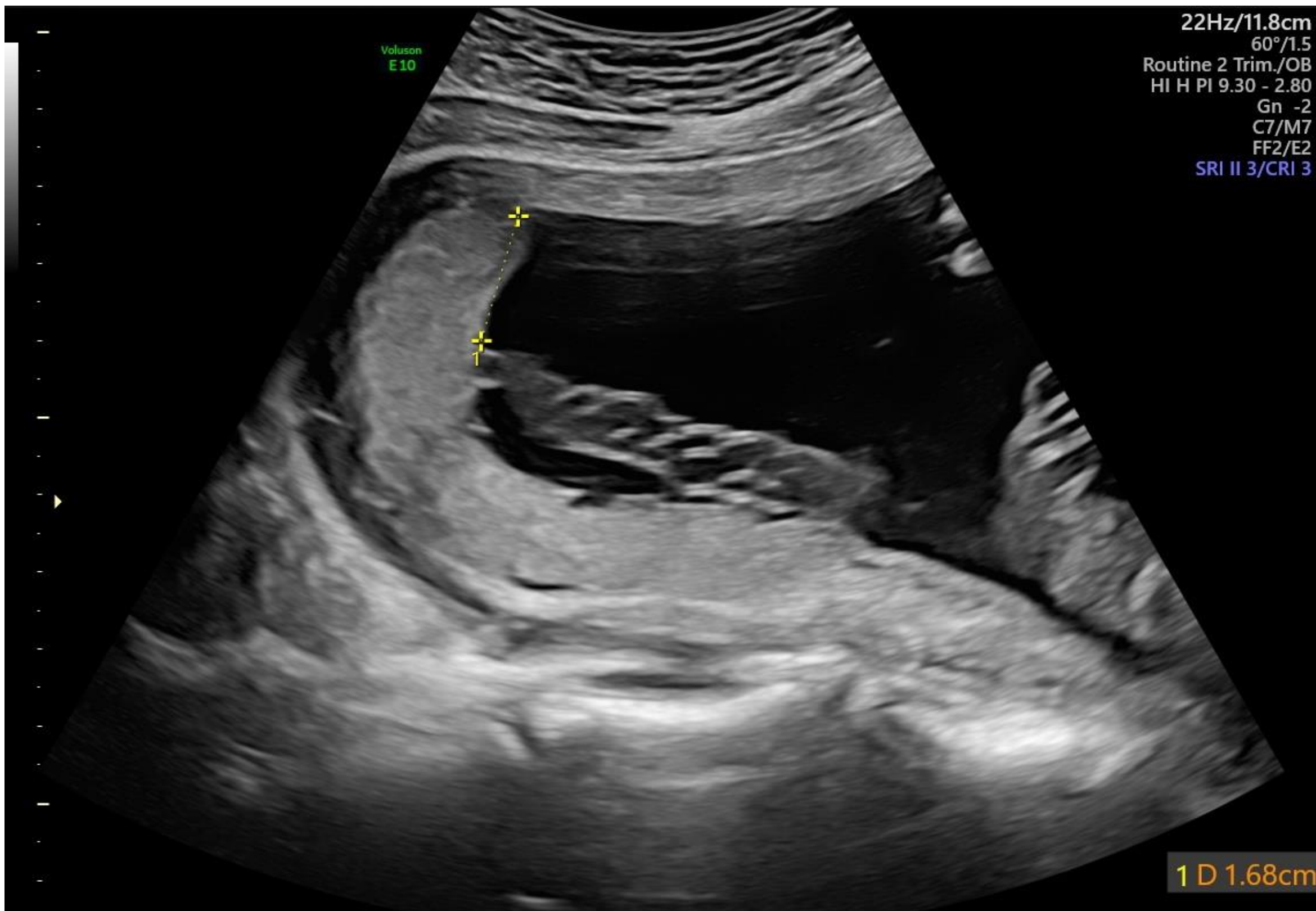


Figure 1:  
A grayscale ultrasound image demonstrating a marginal placental cord insertion, with the cord insertion locating within 2cm from the placental edge