

**Supplementary Fig. 1. Enrollment flowchart of study cohorts: pregnant and non-pregnant participants undergoing pelvic MRI.** MRI, magnetic resonance imaging; POP, pelvic organ prolapses.

Supplementary Table 1. Demographic and clinical characteristics of the pregnant group (N = 238).

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| **Variables** | **Value** |
| Indications forMRI | - |
| Suspected abnormal placenta, n (%) | 192 (80.7) |
| Suspected fetal abnormalities, n (%) | 21 (8.8) |
| Pelvimetry, n (%) | 4 (1.7) |
| Evaluation of scar thickness of the lower uterine segment, n (%) | 6 (2.5) |
| Maternal gynecopathy, n (%) | 15 (6.3) |
| Placenta location | - |
| Normal placenta, n (%) | 116 (48.7) |
| Low-lying placenta, n (%) | 37 (15.6) |
| Placenta previa, n (%) | 85 (35.7) |
| Fetal presentation | - |
| Cephalic, n (%) | 182 (76.5) |
| Breech, n (%) | 34 (14.3) |
| Transverse lie, n (%) | 22 (9.2) |
| Gestational age, mean (SD), weeks | 32.3 (5.8) |
| The depth entering the pelvis, mean (SD), mm | 32.6 (16.4) |
| 0-19 mm, n (%) | 48 (20.2) |
| 20-39 mm, n (%) | 111 (46.6) |
| ≥ 40 mm, n (%) | 79 (33.2) |

SD, standard deviation; MRI, magnetic resonance imaging.

Supplementary Table 2. Factors Associated with Inferior Bladder Neck Position (Pregnant Group, N=238): Univariate Analysis

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| **Variables** | **Not inferior**  **(n = 185)** | **Inferior**  **(n = 53)** | **OR (95% CI)** | ***P*** |
| **Age, mean (SD), years,** | 32.1 (5.2) | 32.6 (4.9) | 1.02 (0.96-1.08) | .575 |
| **BMI, mean (SD), kg/m2** | 25.7 (3.5) | 25.6 (3.4) | 0.99 (0.91-1.08) | .836 |
| **Height, mean (SD), cm** | 159.2(4.7) | 159.5(5.5) | 0.99(0.93-1.05) | .766 |
| **Gestational age, mean (SD), weeks** | 31.6 (6.1) | 34.7 (3.9) | 1.14 (1.05-1.23) | **.001** |
| **Depth, mean (SD), mm** | 30.9 (16.5) | 38.4 (14.7) | 1.03 (1.01-1.05) | **.003** |
| **0-19mm, n (%)** | 43 (23.2) | 5 (9.4) | Ref. | - |
| **20-39mm, n (%)** | 87 (47.1) | 24 (45.3) | 2.37 (0.85 -6.65) | .100 |
| **≥ 40mm, n (%)** | 55 (29.7) | 24 (45.3) | 3.75 (1.32-10.65) | **.013** |
| **Parity, median (IQR)** | 1 (0-1) | 1 (0-1) | 1.53 (0.94-2.48) | .084 |
| **Number of VDs, median (IQR)** | 0 (0-0) | 0 (0-1) | 2.95 (1.51-5.73) | **.001** |
| **Number of CDs, median (IQR)** | 1 (0-1) | 0 (0-1) | 0.89 (0.54-1.47) | .642 |
| **Placenta location** |  |  |  |  |
| **Normal placenta, n (%)** | 87 (47.0) | 29 (54.7) | Ref. | - |
| **Low-lying placenta, n (%)** | 31 (16.8) | 6 (11.3) | 0.58 (0.22-1.53) | .272 |
| **Placenta previa, n (%)** | 67 (36.2) | 18 (34.0) | 0.81 (0.41-1.57) | .527 |
| **Fetal presentation** |  |  |  |  |
| **Cephalic, n (%)** | 136 (73.5) | 46 (86.8) | Ref. | - |
| **Breech, n (%)** | 31 (16.8) | 3 (5.7) | 0.29 (0.08-0.98) | **.046** |
| **Transverse lie, n (%)** | 18 (9.7) | 4 (7.5) | 0.66 (0.21-2.04) | .468 |

1. OR, odds ratio; CI, confidence interval; SD, standard deviation; BMI, body mass index; IQR, interquartile range; VD, vaginal delivery; CD, cesarean delivery.

2. Depth was measured as the perpendicular distance from the pelvic inlet plane to the most inferior fetal/placental structure on midline sagittal MRI.

3. Classification criteria:*Inferior bladder neck position:*Measurement <14.87 mm (non-pregnant group mean −1.96 SD).

Supplementary Table 3. Factors Associated with Inferior Cervix Position (Pregnant Group, N=238): Univariate Analysis

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| **Variables** | **Not inferior**  **(n = 199)** | **Inferior**  **(n = 39)** | **OR (95% CI)** | ***P*** |
| **Age, mean (SD), years,** | 32.1 (5.2) | 33.0 (4.3) | 1.04 (0.97-1.11) | .309 |
| **BMI, mean (SD), kg/m2** | 25.8 (3.5) | 24.9 (3.2) | 0.92 (0.83-1.02) | .121 |
| **Height, mean (SD), cm** | 159.0(4.6) | 160.7(6.1) | 0.93(0.87-1.0) | 0.06 |
| **Gestational age, mean (SD), weeks** | 32.1 (5.9) | 33.4 (5.5) | 1.05 (0.98-1.12) | .196 |
| **Depth, mean (SD), mm** | 30.1 (15.6) | 44.9 (14.7) | 1.07 (1.04 -1.10) | **< .001** |
| **0-19 mm, n (%)** | 46 (23.1) | 2 (5.1) | Ref. |  |
| **20-39 mm, n (%)** | 102 (51.3) | 9 (23.1) | 2.03 (0.42 -9.77) | .377 |
| **≥ 40 mm, n (%)** | 51 (25.6) | 28 (71.8) | 12.63 (2.85 -55.97) | **.001** |
| **Parity, median (IQR)** | 1 (0-1) | 1 (0-1) | 0.88 (0.51 -1.52) | .641 |
| **Number of VDs, median (IQR)** | 0 (0-0) | 0 (0-0) | 1.45 (0.68 -3.10) | .333 |
| **Number of CDs, median (IQR)** | 1 (0-1) | 0 (0-1) | 0.72 (0.40 -1.29) | .263 |
| **Placenta location** |  |  |  |  |
| **Normal placenta, n (%)** | 88 (44.2) | 28 (71.8) | Ref. |  |
| **Low-lying placenta, n (%)** | 34 (17.1) | 3 (7.7) | 0.28 (0.08 -0.97) | **.045** |
| **Placenta previa, n (%)** | 77 (38.7) | 8 (20.5) | 0.33 (0.14 -0.76) | **.009** |
| **Fetal presentation** |  |  |  |  |
| **Cephalic, n (%)** | 150 (75.4) | 32 (82.1) | Ref. |  |
| **Breech, n (%)** | 29 (14.6) | 5 (12.8) | 0.81 (0.29 -2.25) | .683 |
| **Transverse lie, n (%)** | 20 (10.1) | 2 (5.1) | 0.47 (0.10 -2.11) | .323 |

1. OR, odds ratio; CI, confidence interval; SD, standard deviation; BMI, body mass index; IQR, interquartile range; VD, vaginal delivery; CD, caesarean delivery.

2. Depth was measured as the perpendicular distance from the pelvic inlet plane to the most inferior fetal/placental structure on midline sagittal MRI.

3. Classification criteria: *Inferior cervix position*: Measurement <11.21 mm (non-pregnant cohort mean −1.96 SD).

Supplementary Table 4. Factors Associated with Superior Posterior Fornix Position (Pregnant Group, N=238): Univariate Analysis

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| **Variables** | **Not superior**  **(n = 167)** | **Superior**  **(n = 71)** | **OR (95% CI)** | ***P*** |
| **Age, mean (SD), years,** | 31.9 (5.2) | 32.9 (4.9) | 1.04 (0.98 -1.10) | .166 |
| **BMI, mean (SD), kg/m2** | 24.9 (3.2) | 27.3 (3.4) | 1.24 (1.13 -1.35) | **< .001** |
| **Height, mean (SD), cm** | 159.2(5.0) | 159.5(4.6) | 0.99 (0.94-1.05) | 0.721 |
| **Gestational age, mean (SD), weeks** | 31.7 (6.3) | 33.8 (4.3) | 1.08 (1.02 -1.14) | **.013** |
| **Depth, mean (SD), mm** | 37.0 (14.7) | 22.0 (15.4) | 0.94 (0.91 -0.96) | **< .001** |
| **≥ 40 mm, n (%)** | 69 (41.3) | 10 (14.1) | Ref | - |
| **20-39 mm, n (%)** | 83 (49.7) | 28 (39.4) | 2.33 (1.06 -5.13) | **.036** |
| **0-19 mm, n (%)** | 15 (9.0) | 33 (46.5) | 15.18 (6.16 -37.38) | **< .001** |
| **Parity, median (IQR)** | 1 (0-1) | 1 (0-1) | 1.48 (0.95 -2.30) | .082 |
| **Number of VDs, median (IQR)** | 0 (0-0) | 0 (0-0) | 1.23 (0.64 -2.36) | .542 |
| **Number of CDs, median (IQR)** | 0 (0-1) | 1 (0-1) | 1.37 (0.88 -2.13) | .168 |
| **Placenta location** |  |  |  |  |
| **Normal placenta, n (%)** | 93 (55.7) | 23 (32.4) | Ref | - |
| **Low-lying placenta, n (%)** | 22 (13.2) | 15 (21.1) | 2.76 (1.24 -6.13) | **.013** |
| **Placenta previa, n (%)** | 52 (31.1) | 33 (46.5) | 2.57 (1.36 -4.82) | **.003** |
| **Fetal presentation** |  |  |  |  |
| **Cephalic, n (%)** | 127 (76.0) | 55 (77.5) | Ref | - |
| **Breech, n (%)** | 28 (16.8) | 6 (8.5) | 0.49 (0.19 -1.26) | .141 |
| **Transverse lie, n (%)** | 12 (7.2) | 10 (14.1) | 1.92 (0.78 -4.72) | .153 |

1. OR, odds ratio; CI, confidence interval; SD, standard deviation; BMI, body mass index; IQR, interquartile range; VD, vaginal delivery; CD, cesarean delivery.

2. Depth was measured as the perpendicular distance from the pelvic inlet plane to the most inferior fetal/placental structure on midline sagittal MRI.

3. Classification criteria: *superior posterior fornix*: Measurement >47.58 mm (non-pregnant cohort mean ± 1.96 SD).