

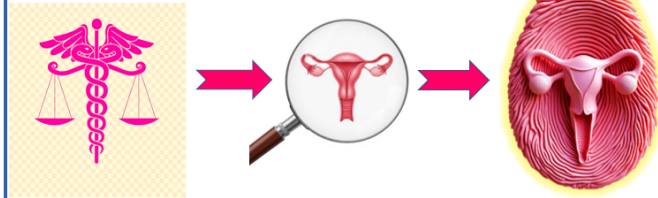
3D Uterine Measurements as a Biometric Identifier: A Medico-Legal Perspective

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Background

Traditional biometric identifiers, such as fingerprints and DNA, have well-established applications in forensic indications, yet the potential of internal anatomical structures remains underexplored.

This study examines the use of three-dimensional (3D) uterine measurements assessed by 3D ultrasound as a unique biometric identifier, assessing its medico-legal implications, such as identity verification in forensic medicine and legal disputes involving reproductive health.



Materials and Methods



Design

- Prospective observational study



Participants

- 171 women undergoing IVF (Aug 2023-Dec 2024), excluding fibroids, endometriosis, advanced maternal age (>38 years)



Uterine parameters using 3D vaginal power Doppler ultrasound (ws80a, Samsung):

- Endometrial volume
- Uterine volume
- Intercornual distance
- Right/left cornual angles
- Right/left indentation angles/distances

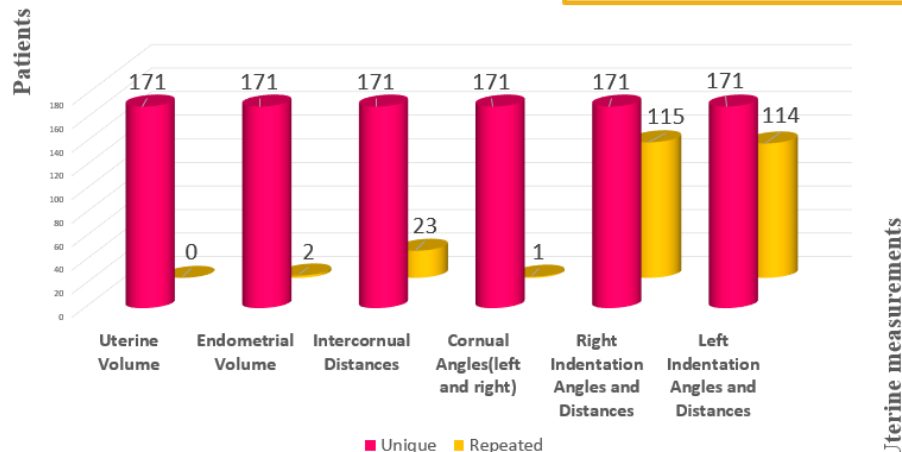


Statistical analysis:

- SPSS Software (3.43.10)

This study demonstrates that 3D uterine morphometry is a highly unique biometric marker, with a near-zero probability of two individuals sharing identical measurements.

Results



From these nine measurements we can obtain 3.43×10^{19} combinations, making the probability of two patients sharing the same combination practically zero.

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