

ENDOMETRIAL-SUBENDOMETRIAL FLOW DISTRIBUTIONS BY THREE-DIMENSIONAL ULTRASOUND AND POWER DOPPLER ANGIOGRAPHY ASSOCIATED WITH IN-VITRO FERTILIZATION/EMBRYO TRANSFER OUTCOME

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Purpose: To determine the association between the outcomes of in-vitro fertilization/embryo transfer (IVF/ET) and simplified endometrial-subendometrial flow parameters assessed by three-dimensional ultrasonography and power Doppler angiography (3D US-PDA)

Materials and methods: One hundred and thirty-three women were recruited from our IVF programs. The inclusion criteria was the participant had at least one grade 1 embryo for transfer on the 2nd or 3rd day after oocyte retrieval. By using transvaginal 3D US-PDA, we assessed endometrial volume(EV), vascularization index(VI), flow index(FI) and vascularization flow index(VFI) of endometrial-subendometrial regions on the day of embryo transfer. Endometrial and subendometrial blood flow distributions were also determined. Observed outcomes were clinical pregnancy rates.

Results: The pregnancy rate was 37.6% (50 out of 133) per cycle. EV, endometrial and subendometrial VI/FI/VFI values were indifferent among the pregnant and non-pregnant women. Women with detectable subendometrial flow by 3D analysis had a significant higher pregnancy rate (43.1%, 47/109) than those without (12.5%, 3/24) ($P < 0.05$).

Conclusion: Vascular indices detected by 3D US-PDA may not be useful in the assessment of uterine receptivity. Absence of subendometrial flow, however, is significantly associated with impaired uterine receptivity.