Objective: Three-dimensional ultrasound parameters (vascularity of endometrial- and subendometrial pattern, endometrial volume) as possible predictors for implantation and pregnancy during Frozen thawed Embryo Transfer (FET) - cycles.

Setting: Landes Frauen- und Kinderklinik Linz, Department of endocrinology and reproductive medicine

Patients: Forty seven frozen thawed embryo transfer cycles were analyzed: 21 pregnant (group I), 26 non pregnant (group II)

Interventions: Transvaginal 3-D power Doppler examination was performed 30 minutes prior to embryo transfer. Estradiol valerat 1mg was used in a step up regime for endometrial preparation, Progesterone 100mg 1-0-2 and Hydroxyprogesteron caproat 500mg i.m.1x/week was applied as luteal phase support, pregnancy test was 14 days after embryo transfer.

Main outcome measures: Vascularization indices of the endometrium and subendometrium using the VOCAL (Virtual Organ Computer Aided Analyses), endometrial volume, pregnancy rate.

Result(s): There was a significant difference in endometrial volume (p-value 0,003): 3,37ml (group I) and 2,32ml (group II); and subendometrial Flow Index (p-value 0,03): 30,16 (group I) vs. 27,18 (group II). Vascularisation parameters (Vascularization Flow Index (VFI), Vascularization Index (VI), Flow Index (FI)) of the endometrium as well as the VFI and VI of the subendometrium showed no significant difference.

Conclusion: Endometrial volume and subendometrial Flow index seems to be helpful in prediction of pregnancy 30 minutes prior to embryo transfer in a frozen thawed embryo transfer cycle.