Objective: Does intracervical and intravaginal application of seminal plasma affect endometrial and subendometrial vascularisation, endometrial volume or life birth rate.

Design: Double blind, placebo controlled, randomized trial

Patients: Seventy seven patients undergoing first or second IVF/ICSI cycle.

Interventions: Seminal plasma (from the patients partner) or placebo (sodium chloride) was injected into the cervix and posterior vaginal fornix just after follicle aspiration. 3-D power Doppler examination was performed 30 minutes prior to oocyte retrieval and 30 minutes prior to embryo transfer.

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

Result(s): One hundred patients agreed to participate, one quit without any reason. Twenty two patients (21.78%) needed to be excluded due to exclusion criteria, mainly as a result of canceled embryo transfer. 40 patients received SP (group I), 37 received placebo (group II). There was no significant difference in the Vascularization Flow Index (VFI), Vacularization Index (VI) or Flow Index (FI) of the endometrium or subendometrium on the day of oocyte pick-up and on the day of embryo transfer. There was no significant difference in endometrial volume on day of follicle aspiration (4,08ml (±1,44) vs. 3,98ml (±1,27)) and on day of embryo transfer (4,04ml (±1,60) vs. 3,99ml (±1,29)). Life birth rate was 30,0% (12/40) in group I and 29,73% (11/37) in group II; birth weight was 3061,7g (±740,98g) vs. 2983,4g ± (443,01g) - again no statistical significance was reached.

Conclusion: Neither the endometrial vascularisation parameters, nor the endometrial volume, or life-birth-rate seems to be affected by application of seminal plasma in patients undergoing the first or second IVF/ICSI cycle.