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Thin endometrium is associated with increased resistance index in uterine artery

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Abstract

**【objective】**

It is uncertain whether endometrial condition is influenced by uterine blood flow. This study aims to investigate the relationship between the endometrial thickness (EMT) and resistance index (RI) in uterine vessels during estrogen supplementation cycles.

**【Patients】**

Forty-four women had estrogen supplementation in preparation for frozen embryo transfer. On the 14<sup>th</sup> day of the hormone replacement cycle, the EMT was measured with Voluson(E10,S10) transvaginal ultrasound probe. The RI in uterine artery (RI-UA) and radial artery (RI-RA) were measured by power Doppler images.

**【Main Outcome Measures】**

The women were divided in 2 groups according to their endometrial thickness. Thirty-seven women showed EMT  $\geq$  8 mm (thick), and seven women were  $<$  8 mm (less-thick). The RI-UA and RI-RA were compared between the two groups. The statistical analysis was carried out with t-test.

**【Results】**

The less-thick group showed significantly increased RI-UA than the thick group ( $0.86\pm 0.03$  VS  $0.81\pm 0.07$ ). RI-RA showed no difference between the groups ( $0.67\pm 0.08$  VS  $0.69\pm 0.07$ ).

**【Conclusions】**

The level of RI-UA seemed to be associated with endometrial thickness. Lower RI in uterine artery may provide positive effect on the proliferation of endometrium for implantation.