경적 검사결과, 술후 정액검사소견, 정자육아종 유무 등에 따라 임신성공율을 비교한 결과 환자 연령의 경우 임신성공율과 관계가 없었고 정관 폐쇄기간이 5년이하인 60례중 31명(52%), 6년부터 10년이하인 43례중 16명(37%), 10년이 초과된 12례중 1명(8%)의 성공율을 보여 정관 폐쇄기간에 따라 임신 성공률의 유익한 차이를 보였고 특히 10년이 초과되었을 경우 임신율의 현저한 차이를 보였다. 수술방법에 따른 해부학적 개통율은 육안적 정관문합술 74례중 58례(78%)에서, 현미경적 문합술 41례중 35(85%)례에서 나타났으며 임신율은 육안적 정관문합술 74례중 30례(40%), 현미경적 문합술 41례중 18례(44%)로서 현미경적 문합술에서 더 좋은 성적을 나타내었으나 두 방법간에 유의한 차이는 없었다. 정관액의 육안적 소견, 현미경적 검사결과, 술후 정액검사소견, 양측에서 정자 육아종 존재여부 등이 이용될 수 있다고 생각되며 특히 정관 폐쇄기간과 술후 정액검사상 운동성 유무가 가장 중요한 인자로 생각된다.

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In Vitro Interaction of Human Trophoblast and Cultured Endometrium.

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Recent assisted reproductive techniques have improved the fertilization rates in in vitro fertilization program and decreased the ovulation failure rates, but the overall pregnancy rates and the implantation rates are still two low for the patients and the physicians to be satisfied. To improve the implantation and pregnancy rate for the management of infertility, in vitro experiments with adequate model for implantation is necessary.

Implantation is a process of interaction between embryo and maternal endometrium.

Recent reports describe that the trophoblast cells, especially cytotrophoblasts shre many biochemical expressions with embryos for the attachment and invasion of endometrium.

Trophoblasts have been reported to have variety of integrin expressions and also known to secret knids of proteinases for invasion. To examine the possible implantation model, in this study, we observe the interaction culturing cytotrophoblasts on the confluent monolayer of endometrial cells and assessed biochemical factors associated with culture condition. Endometrial cells were obtained from the hysterectomized uteri with benign pathologies. Endometrial stromal cell and glandular epithelial cells were separated and cultured to become confluent monolayers as previously described (Irwin HC, 1990).

Endometrial monolayers were further cultured for six days with 6 ml of growth media containing 10% fetal bovine serum, 10ng/ml of epidermal growth factor (EGF) and antibiotics. Trophoblasts were obtained from placenta removed from the patient who took cesarean section near term without labor. Placental tissues were digested with collagenase and cytotrophoblasts were separated by Ficoll gradient method with density beads as described by Kliman (HJ Kliman, 1986). The purity of the cells were assessed by immunohistochemical method using cytokeratin, vimentin, CD68, and SP-1 monoclonal antibodies. Prepared cytotrophoblasts 2×10^6 were diluted in 6 ml of serum free growth media and added to the 6 day

cultured monolayer of endometrium. Addition of EGF to the growth media modulate the duration of endometrium to reach confluence, but there were no microscopic differences after confluence between endometrium cultured with EGF and endometrium without EGF, However, EGF influence the trophoblast-endometrium interaction in vitro. Within 12 hr of culture with EGF, cytotrophoblast cells were begin to adhere to form the clups of cells. After 28 hr culture, endometrial stromal layer began to detach from the bottom of dishes and After 28 hr culture, endometrial stromal layer began stromal layers were destructed. However, endometrial epithelial layers were intact until 48 hr culture with cytotrophoblast. Three out of 21 samples of stromal layer showed about 50% destruction. Collagenase (0.1%) aadded to the endometrial monolayer destructed both stromal and glandular epithelium within 24 hrs. These in vitro interaction between cytotrophoblasts and endometrium suggests the possibility that EGF is playing role in implantation process and embryo may invade glandular epithelium and stromal layer using different mechanisms.

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Pinopodes formation in the poor and good responders in human IVF program.

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Despite progress in human IVF, the majority of IVF attempts remain unsuccessful, most likely on the basis of implantation failure. If we were able to manage the implantation window, we could significantly improve implantation and pregnancy rates in human IVF. The present study was conducted to evaluate the endometrial development in IVF patients related to their plasma level of estradiol(E2) on the day of hCG injection. Patients stimulated by either FSH/hMG/hCG or GnRHa/FSH/hCG were included in this study. Included patients were grouped according to the plasma level of E2 measured on the day of hCG administration as the poor responders(n=6, E2<600 pg/ml) and good responders (n=6, E2≥600 pg/ml). Endometrial biopsy was accomplished two days after oocyte retrieval on the tentative day of embryo transfer in patients who had no embryos available for transfer due to fertilization failure of the all oocytes aspirated. Two-dimensional structure of the endometrium was analyzed by hematoxylin and eosin staining, while three-dimensional structure, pinopodes formation, of the endometrium was assessed by examining through scanning electron microscopy (SEM). Half of the biopsied endometrium was fixed in 10% formalin and processed further for paraffin section. Luteal phase assessment was performed by dating the endometrium according to the standard criteria by Noyes et al. The other half of the biopsied endometrium was rinsed thoroughly with saline and immersed in 2.5% (w/v) glutaraldehyde containing 2% paraformaldehyde solution in PBS. Specimen was fixed in 1% (w/v) osmium tetroxide and dried in a critical-point drier, and then examined by SEM after coating with gold palladium. Mean level of plasma E2 was 395.2 ± 66.3 and 1328.0 ± 215.2 pg/ml in the poor and good responders,