A NOVEL ENDOMETRIAL ORGAN CULTURE SYSTEM: OBSERVATIONS ON ITS USE FOR
STUDIES OF THE INITIAL PHASE OF EMBRYO IMPLANTATION

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An endometrial organ culture system has been developed (1,2) which
includes the following specific features:

1. Preincubation of endometrial fragments in shaker culture
results in regeneration of a complete epithelial lining;
2. preservation of organotypic tissue structure is quite satis­
factory, and there is no central necrosis;
3. certain hormone responses can be obtained in vitro;
4. blastocysts show remarkably good development in co-culture
with these precultured endometrial fragments.

This system has proved useful for studies on the initial phase
of blastocyst implantation in vitro (2). Most remarkably, with rabbit
material selectivity is observed for trophoblast attachment and
invasion, while various types of malignant tumor cells are found
unable to penetrate the intact uterine epithelium under the in vitro
conditions used (3). It is concluded that trophoblast-endometrial
interactions show specific features, not common to all invasion
processes, and that the model described may be useful for the study
of molecular mechanisms involved.

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