PROJECT RESUME

Development of the placenta is fundamental to a successful pregnancy outcome, and to the life-long health of the offspring. However, we know little about events taking place following implantation in the human, principally because of the inaccessibility of the tissues involved. Research in domestic species has revealed that a two-way signalling dialogue between the trophoblast of the placenta and the endometrial glands causes the release of growth factors that stimulate placental development. The aim of this project is to test whether an equivalent dialogue occurs in the human, and to identify the pathways involved. We have recently derived organoids of human endometrial glands and placental trophoblast that faithfully replicate their tissues of origin, and will use these to investigate interactions between the maternal and placental tissues. If our hypothesis is proved correct, it will open new avenues for therapeutic interventions into complications of pregnancy, such as recurrent miscarriage.

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