The Human Placenta Project: Anatomy and Tissue Structure

Susan Fisher
Maternal-Fetal Interface

- Fetal surface
- Amnion
- Villi
- Umbilical cord
- Chorion
- Basal plate
- Maternal surface
- Placenta

(Maternal-Fetal Interface)
Normal term placenta: fetal surface

10cm
Normal term placenta: maternal surface
The placenta is composed of floating and anchoring chorionic villi

Chorionic villi: stromal cores containing fetal blood vessels covered by a layer of cytотrophoblasts and syncytiotrophoblasts (first and second trimester)
16wk MFI biopsy

villi

Maternal-fetal interface

Spiral arteriole
Cytotrophoblasts remodel the uterine vasculature

1. Direct blood flow to the placenta
2. Vastly increase blood flow to the intervillous space
3. Integrate while preserving the integrity of the entire maternal systemic circulation
Placental cytотrophoblasts lining modified vessel in 21 wk decidua
The placenta is integrated with the other extraembryonic structures.
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