

embryo (7)

st.

Implantation at Day 8.

2nd week (2)

❖ The Embryoblast differentiates into

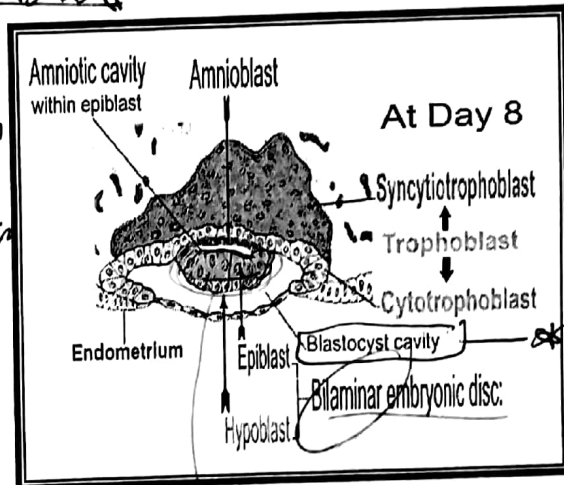
2 layers

1. Epiblast. *ectoderm*
(with Columnar cells).

2. Hypoblast. *endoderm*
(with Cuboidal cells)

➤ Both layers form 2-layered thick plate called Bilaminar embryonic disc.

➤ Thereafter, a small cavity appears within the Epiblast. This enlarge to form the Amniotic cavity.



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embryonic

other extra embryonic

Implantation at Day 8.

2nd week (2)

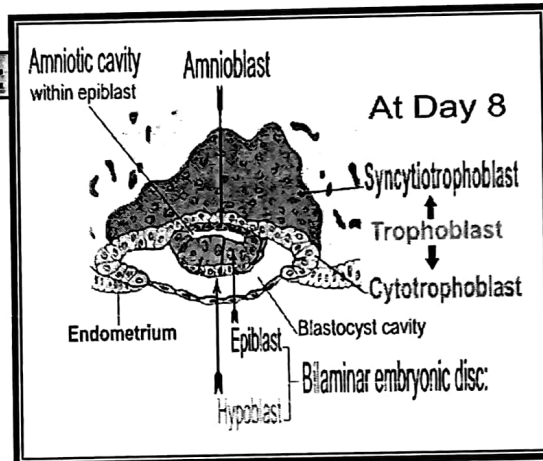
❖ Trophoblast cells differentiates into 2 layers:

1. Inner Layer:
Cytotrophoblast
(mononucleated individual cells).

2. Outer Layer:
Syncytiotrophoblast
(multinucleated protoplasmic mass without recognizable cell boundaries).

➤ Both layers form the fetal part of the placenta.

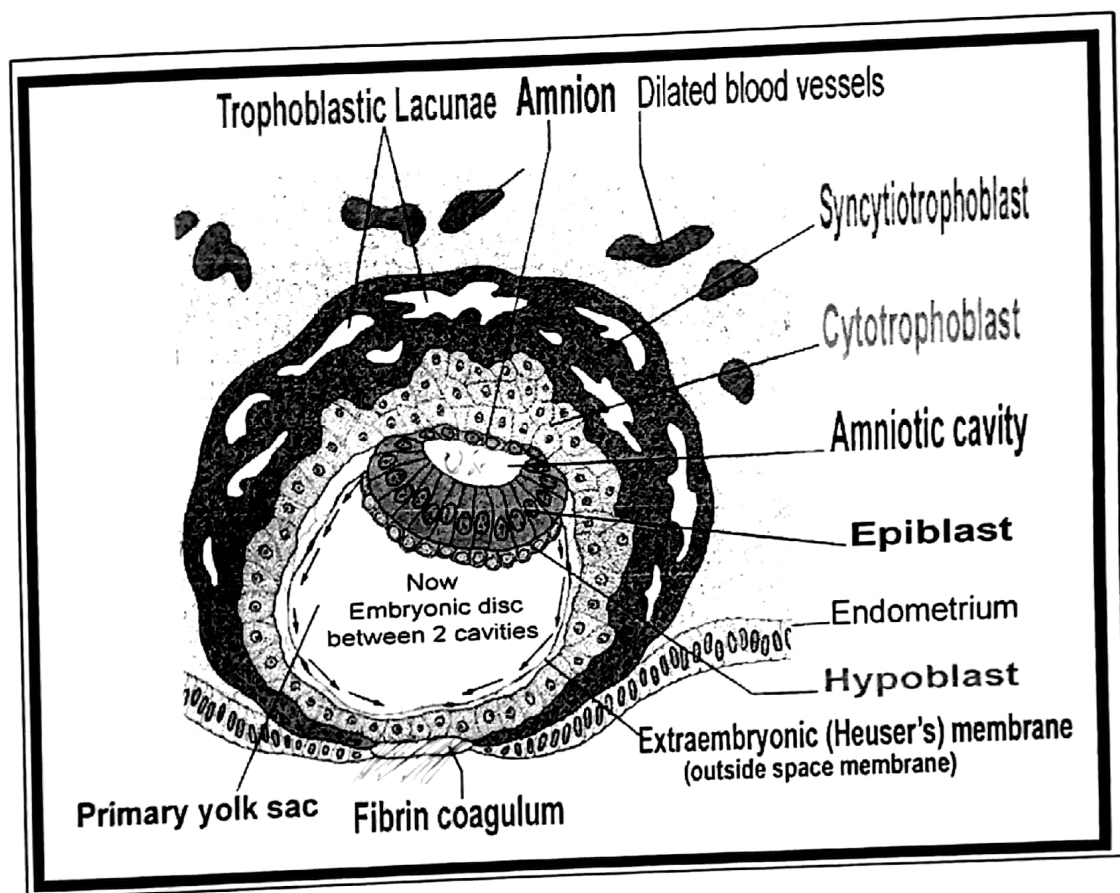
1 + 2 = Chorion = مشيماء



Implantation

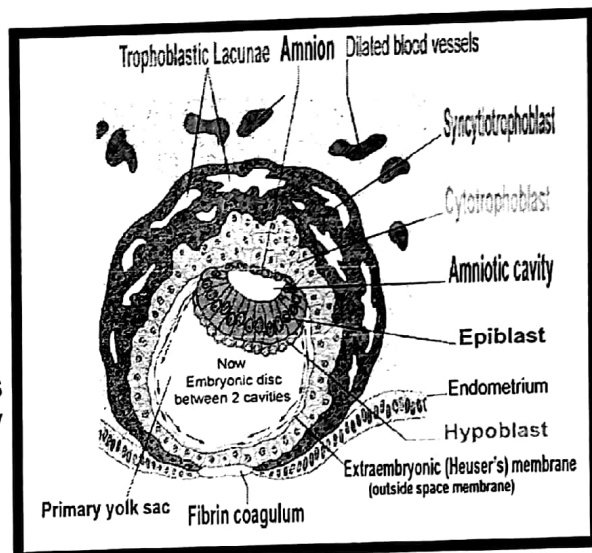
- Subsequently, syncytiotrophoblastic cells of the implanted blastocyst secrete **hcG** → (human chorionic gonadotropin) hormone to maternal blood → (+ve pregnancy test) and interrupts the regular sexual cycle.
- This hormone prevents degeneration of the Corpus Luteum and maintains it as **Corpus Luteum of pregnancy**.
- Endometrium after pregnancy is known as Decidua (falling off) which falls with fetus at delivery.

سماة الاسبوع الأول



Day 9 main events.

1. Blastocyst embedded deeply in endometrium.
2. Syncytium show small fluid-filled cavities (contains mixture of maternal blood and endometrial glands secretions) \Rightarrow fuse \Rightarrow trophoblastic Lacunae.
3. Embryonic disc now lies between Amniotic cavity and Primary Yolk sac.
الكيس المحي



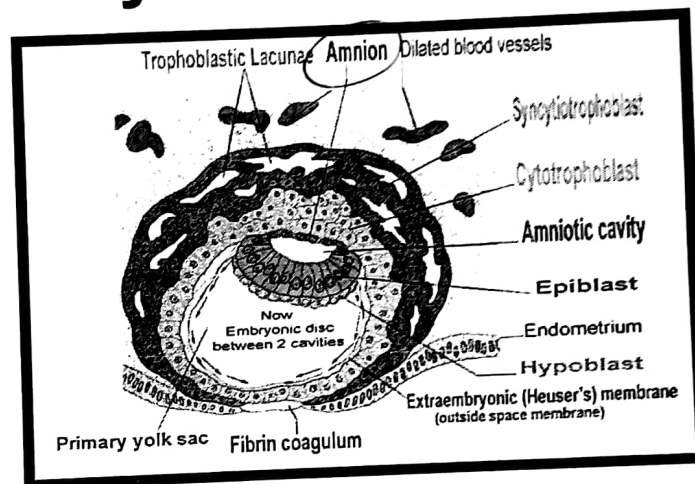
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when development
twins + little
amount of
fluid

Day 9 main events.



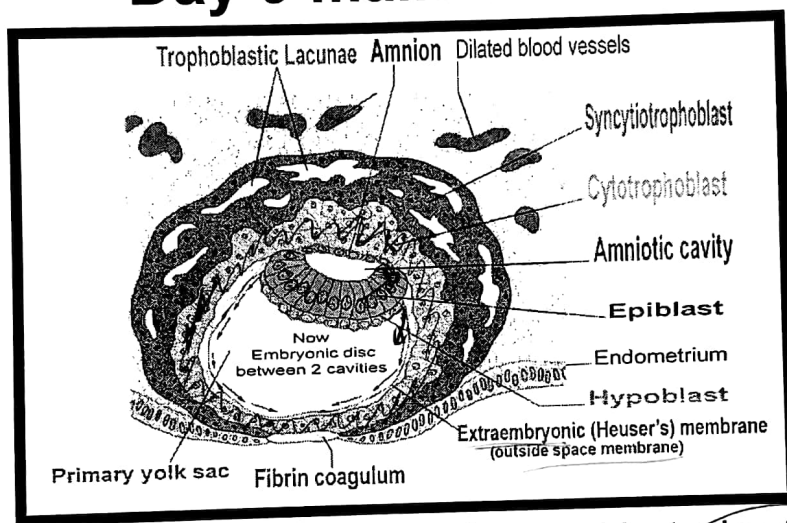
4. Epiblast cells adjacent to the cytotrophoblasts, forms the Amniotic membrane (Amnion) that lines the amniotic cavity.

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Day 9 main events.



5. At the same time, cells from the hypoblast migrate down that line the inner surface of the cytotrophoblast and form the extraembryonic membrane. This forms the primary yolk sac.

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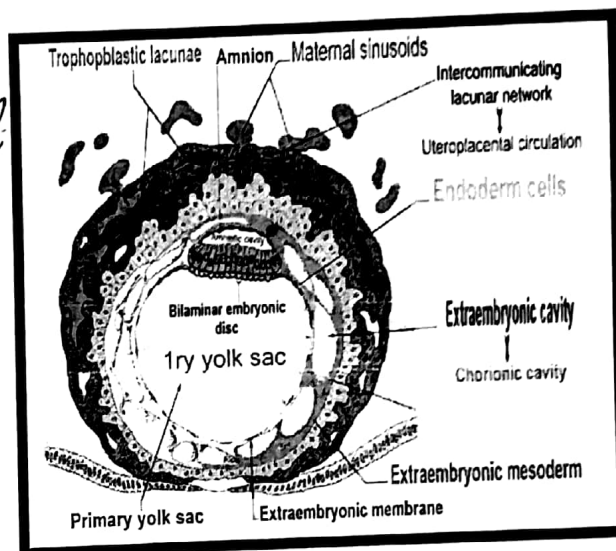
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*concurrently
at the same
time.*

Day 11 and 12 main events.

1. Trophoblastic lacunae fused to form lacunar network which communicate with maternal sinusoids. Maternal blood leaks into lacunar networks to establish the **uteroplacental circulation**.

2. Connecting stalk (★) (umbilical cord to be) appears between the embryonic disc and the trophoblast.



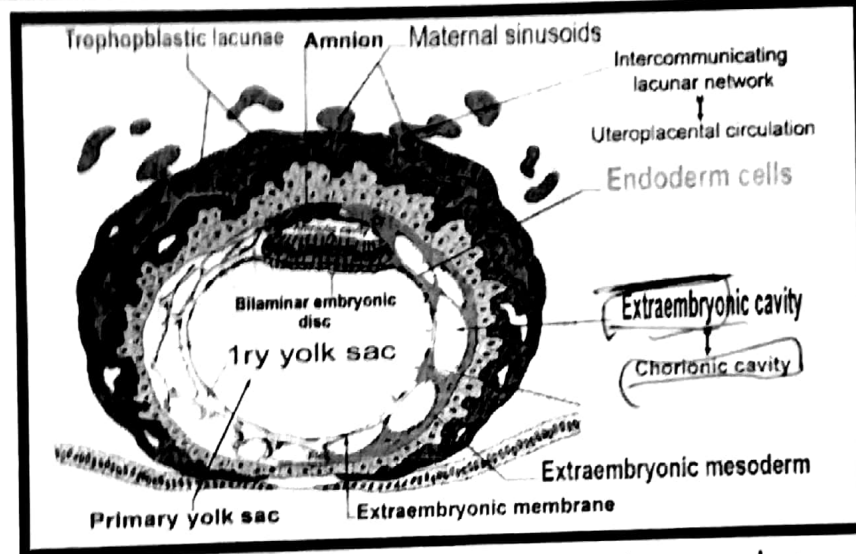
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indirect giving for blood

**Day
11, 12**



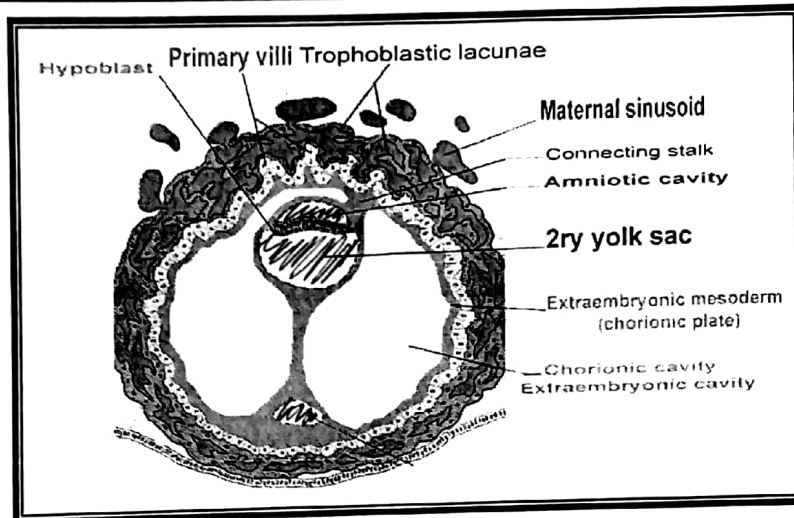
3. Some hypoblasts of the extraembryonic membrane giving rise to a layer of loosely mesenchymal CT that inserts between the cytotrophoblast and amnion. Now, extraembryonic membrane called extraembryonic mesoderm.

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Day 11, 12



4. Spaces form within extraembryonic mesoderm are rapidly unite to form a new cavity called the **chorionic cavity**. This space surrounds 1ry yolk sac and amniotic cavity except at the connecting stalk between embryo & trophoblast.
5. The 1ry yolk sac is pinched off a 2ry yolk sac.

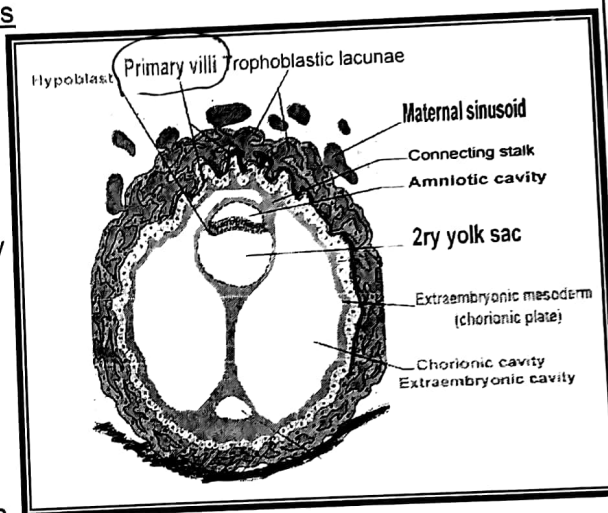
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1. Endometrial implantation defect will be healed. *تندمل*
2. Bleeding occasionally occurs at implantation site due to increase blood flow into lacunar spaces! *Day 28* of normal cycle? *د*
3. Connecting stalk clearly visible.
4. The 2ry yolk sac formed by migrated hypoblasts.
5. A fingerlike processes from cytotrophoblasts invade syncytiotrophoblast to give Primary chorionic villi.
6. The extraembryonic mesoderm lining the cytotrophoblast now known as chorionic plate.

Day 13 main events:



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*placental
membrane
barrier
4 layers*

** direct drugs
* eye*