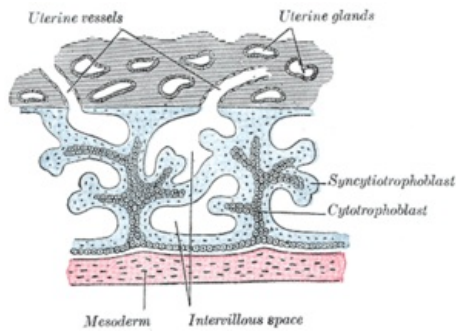
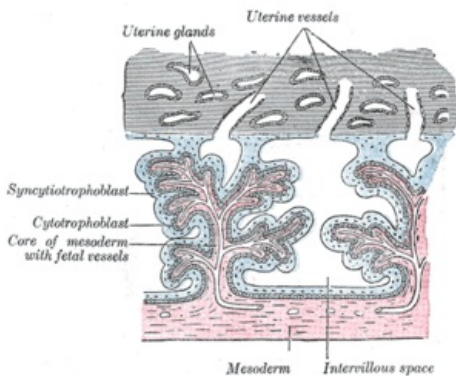


Choriogonadotropin

Human chorionic gonadotropin (hCG) together with lutropin (LH or luteinizing hormone), follitropin (FSH/follicle-stimulating hormone) and thyreotropin (TSH/thyroid stimulating hormone), belongs to the group of glycoprotein hormones. Unlike other glycoprotein hormones produced in the adenohypophysis, hCG is produced by the syncytiotrophoblast of the placenta during pregnancy. It stimulates the growth of the corpus luteum, which forms estrogens and progesterone. Chemically, hCG consists of two subunits - **alpha and beta**. The alpha subunits of all glycoproteins are identical, the biological specificity of these hormones is therefore determined by the beta subunits.



syncytiotrophoblast, primary villi



syncytiotrophoblast, secondary villi

The presence of hCG in a woman's blood or urine is evidence of pregnancy and helps to monitor its progress. A value lower than the normal limit of hCG is a sign of an ectopic pregnancy, stillbirth or impending abortion. In contrast, elevated hCG levels signal multiple pregnancies and allow early diagnosis of trisomy 21 - Down syndrome (along with AFP and uE3 assays). HCG production increases rapidly in early pregnancy. We record the maximum growth **between the 80th and 90th day of pregnancy**, then its production decreases (at 4 months), and after the 25th week the hCG value remains stable until delivery. Its urinary excretion ends about the 7th day after delivery, i.e. after expulsion of the fetus and placenta.

HCG levels during pregnancy

Time since conception	Time since the last menstruation	mIU/l
7 days	21 days	0-5
14 days	28 days	3-426
21 days	35 days	18-7 340
28 days	42 days	1 080-56 500
35-42 days	49-56 days	7 650-229 000
43-64 days	57-78 days	25 700-288 000
57-78 days	79-100 days	13 300-253 000
17.-24. week	Second trimester	4 060-65 400
Od 25. week	Third trimester	3 640-117 000

Links

References

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