

Regression of the corpus luteum

تحلل الجسم الأصفر

Regression (Luteolysis): it is mean analysis of the corpus luteum at the end of the luteal phase for start a new cycle and follicular phase. The regression controlled by two hormones; oxytocin from the CL (not from the posterior pituitary), and prostaglandin F₂α from the uterine endometrium.

The hormonal mechanism of the luteolysis)

- Oxytocin from the CL stimulates PGF₂α synthesis.
- Prostaglandin F₂α is produced by the uterine endometrium venous drainage from the uterus by the utero-ovarian vein carries PGF₂α towards the ovarian artery (the ovarian artery wraps around the utero-ovarian vein).
- PGF₂α is passed from the utero-ovarian vein to the ovarian artery by countercurrent exchange. This ensures that a high amount of PGF₂α produced by the uterus will be transported directly to the ovary and CL without being diluted and metabolized in the systemic circulation.

The intracellular mechanisms of the luteolysis:

1. Reduced blood flow (vasoconstriction) by PGF₂α which causes ischemia.
2. Capillary degeneration and loss of blood flow to the CL thus CL destruction.
3. Apoptosis (programmed cell death):
Lymphocytes and macrophages produce materials called cytokines. Cytokines are capable of reducing progesterone synthesis and disrupt the normal integrity of the CL. Cytokines may cause apoptosis that is accompanied by tissue necrosis and a massive influx of intracellular Ca, collectively destroying the CL.

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Female fertility and venereal diseases

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