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Department:MBBS

Level:200l

MAT NO:18/mhs01/309

ASSIGNMENT ;EMBRYOLOGY

COURSE CODE;ICBS

ANSWERS

FSH{follicle stimulating hormone}

LH{luteinizing hormones}

1. OVULATION: This is the release of secondary oocyte from the ovarian follicle.

Secondary oocyte undergoes the influence of FSH and LH before ovulation which makes it grow rapidly to a diameter of 25mm to become mature secondary follicle in which there is an increase in LH that causes primary oocyte to complete meiosis I and follicle to enter the preovulatory mature vesicular stage

- Meiosis II is also initiated but secondary oocyte is matured in the metaphase 3 hours after ovulation
- The stigma appears for oocyte to be released
- 2 events takes place which are :Increase in collagenase activity resulting to digestion of collagen fibre surrounding the follicle.

Then prostaglandin level increases in response to LH surge and cause local muscular contraction of ovarian wall.

This causes ovulation in which oocyte float out of the ovary

2 .

Meiosis I	Meiosis II
1.synapsis is present	synapsis absent
2.crossing over	crossing over absent
3.Alignment of 46 homologous duplicated chromosomes at	alignment of 23 homologous duplicated chromosomes at

their metaphase plate	their metaphase plate
4. Disjunction of 46 chromosomes from each other centromeres from each other centromeres fo not split	Disjunction of 23 homologous duplicated from each other centromeres from each other centromeres split
5. Cell division formation of 2 secondary gametes (23 duplicated chromosomes 2N)	Cell division formation of 4 gametes(23 single chromosomes 1N)

3. Stages involved in fertilization are

- Passage of sperm through the corona radiata : only capacitated sperm can pass through corona radiata.
- Penetration of soma pellucida : The zone is glycoprotein shell surrounding the egg that facilitates and maintain sperm binding and induces the acrosome reaction . When the sperm comes in contact with the oocytes surface lysosomal enzymes are released from the cortical granules lining of the plasma membrane of the oocyte
- Fusion of plasma membrane of the oocyte and sperm: The plasma membrane of oocyte and sperm fuse together and breakdown the area of fusion.The head and the tail of the sperm enters the cytoplasm of the oocyte only the sperm plasma membrane stays back
- Completions of the secondary meiotic division of oocytes and formation of the female pronucleus: penetration of oocytes by the sperm activates the oocyte into completing the second meiotic division and forming a mature oocyte and a second polar body
- Formation of male pronucleus : within the cytoplasm of the nucleus of the sperm enlarged to form a male pronucleus and the tail degenerate

4.

Monozygotic Twins	Dizygotic Twins
1. The same sexes and are identical	Different sexe and are not identical

<p>2. The resultant zygote forms a blastocyst in which inner cell mass split into 2</p>	<p>The resultant 2 zygote forms 2 blastocyst which implants separately into the uterine endometrium and independent</p>
<p>3. Results from fertilization of 1 secondary oocytes by one sperm</p>	<p>Results from fertilization of 2 secondary oocytes by 2 different sperm</p>
<p>4. They have common amniotic sacs, chronic and placenta</p>	<p>They don't have a common amniotic sacs, chronic and placenta are separated and independent but chrions and placenta can fuse together</p>