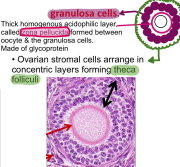


Feature	Primordial Follicles	Primary Follicles	Secondary (Antral) Follicles	Mature Graafian Follicles $\frac{4}{20}$	Atretic Follicles $\frac{19}{20}$
Location	Peripheral cortex of ovary	Ovary	Ovary	Ovary (bulges from surface)	Ovary (can occur at any stage)
Formation Timing	During fetal life	Uni-laminar, single layer of cuboidal cells, develops from primordial follicle Multi-laminar develops from uni-laminar, by proliferation of follicular cells	Develop from primary follicles	Develop from secondary follicles	Can occur at any stage of follicular growth
Oocyte Type	1ry oocyte (diploid #) • Spherical in shape • prominent nucleolus. • Organelles tend to gather close to nucleus	1ry oocyte Its nucleus enlarges & mitochondria & rER	1ry oocyte The oocyte (1ry) enlarges & will be pushed to one side	2ry oocyte (haploid #, just before ovulation)	Oocyte (dies)
Oocyte Size		• The oocyte grows reaching a maximum diameter of about 120 um	Enlarges	Largest	Degenerates
Follicular Cells	Single layer of flat follicular cells	cells are now called granulosa cells.	Granulosa cells Granulosa cells start to secrete fluid which begins to accumulate in spaces between the cells (FSH-dependant)	3- Corona radiata: layer of granulosa cells surrounds the oocyte 4- Cumulus oophorus: A group of granulosa cells suspend the corona radiata + oocyte in follicular fluid Basement membrane 5- the granulosa cells lining the cavity called membrana granulosa Antrum filled with follicular fluid	Degenerating cells When large follicles (2ry & 3ry) degenerate -> collagen scar in the ovary while the small one resorb completely,
Zona Pellucida	Not yet formed	Thick homogenous acidophilic layer formed between oocyte & the granulosa cells. Made of glycoprotein	Present	Present A glycoprotein layer surrounds the oocyte	Degenerating
Theca Folliculi	Absent	Ovarian stromal cells form theca folliculi arrange in concentric layers forming	Differentiates into theca interna and theca externa inner layer (outer layer)	Theca interna: (secretes estrogen & androgen), theca externa: (fibroblast-like, no secretory function)	Degenerating or forms collagen scar (if large follicle)
Antrum	Absent	Absent	Fluid-filled spaces appear and fuse to form a large cavity (antrum)	Large antrum	Absent
Hormonal Dependence		FSH-Independent (growth is stimulated by local factors like EGF)	FSH-dependent (for fluid secretion)	Secretes inhibin (shuts off FSH release)	-
Key Features/Other Info				corona radiata cells penetrate the zona pellucida & make contact with microvilli of membrane of oocytes via gap junctions to provide oocyte with nourishment	Characterized by atresia (degeneration); macrophages invade to phagocytose it.

• Every month about 20 1ry follicles are activated, only **one** reach maturation & the rest become degenerate (atresia)