Populations of follicles in F344/N rats during aging

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Abstract

Follicular populations were investigated in female F344/N rats to better understand the aging process of the rat ovary. Ovaries dissected at various ages (spanning 1–36 months old) were submitted for histological examination. The total number of primordial, growing (primary and secondary), tertiary, and atretic follicles as well as corpora lutea (CL) were counted in hematoxylin–eosin- and azocarmine–aniline-blue-stained ovarian sections. The number of healthy follicles including primordial, growing and tertiary follicles decreased rapidly between the first and third months and gradually thereafter. CL were found in 3-month-old rats, and their number remained unchanged until 18 months of age, at which point it decreased. The number of atretic follicles started to increase in rats older than 18 months, which corresponded to the cessation of estrous cyclicity. Several healthy follicles and CL were observed even in 36-month-old rats.

Keywords

Development; Senescence; Ovary; Oocyte; F344/N rats