

Chapter 4

MORPHOLOGY OF THE OVARY

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INTRODUCTION

A crucial element of female reproductive capacity lies in a cyclic nature, which is prominently exemplified by the growth and development of dominant follicles. To gain insight into the menstrual cycle, it becomes imperative to comprehend the cycle of the dominant follicle and the mechanisms that govern it.

FOLLICULOGENESIS

Folliculogenesis commences with the selection of a primordial follicle to join the cohort of developing follicles, culminating in either ovulation or cessation through atresia.

OVULATION

Histologically, ovulation witnesses various tissue changes, especially during the transformation and release of the Graafian follicle. The connections between the granulosa cells weaken and the stigma is formed.

LUTEINIZATION

The corpus luteum, during the luteal phase of the menstrual cycle, functions as a prominent endocrine gland, generating substantial quantities of progesterone and estradiol.

CONCLUSION

Knowledge of the interaction between the morphological structure and function is of great importance in a number of medical and research applications such as reproductive health, infertility treatments and hormonal regulation.

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the corpus luteum functions for approximately eleven to fourteen days, but in cases of luteal phase defects, its activity diminishes in less than nine days. This deficiency is commonly attributed to inadequate progesterone levels, which are responsible for sustaining the corpus luteum. Clinically, luteal phase deficiency can contribute to recurrent early pregnancy loss. In the past, the gold standard for diagnosis involved a luteal phase biopsy; however, due to its recognized imprecision, it is no longer considered clinically relevant. Treatment options may include progesterone supplementation (17).

The visualization of the corpus albicans is a rare occurrence in clinical imaging. However, in post-menopausal women, alterations in the appearance of the corpus albicans may arise as a consequence of hormonal changes related to menopause. Reduced estrogen levels and decreased immune-mediated phagocytic and fibroblastic activity can result in inadequate development and regression of the corpus albicans. Consequently, this can lead to the ultrasound detection of these structures, potentially causing confusion with ovarian neoplasms. The presence of hemosiderin and calcium deposits within the corpus albicans itself can enhance its ultrasound visibility, manifesting as small echogenic foci devoid of distal acoustic shadowing. In addition to ultrasound, these calcifications may also be evident in plain film radiographs of the pelvis (18).

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