

Mini-Symposium:

The Role of the ovarian microenvironment in the maintenance of ovarian reserve and healthy follicular growth

Preface

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Knowledge concerning follicular development from primordial to mature pre-ovulatory follicles in women of reproductive age has been the main topic of research in reproductive medicine. Many macromolecules and their mediators participate in the regulation of follicular growth and the maintenance of ovarian reserve.

Recently, fertility preservation using oocyte, embryo, and ovarian tissue cryopreservation has been introduced to clinical practice with promising results for young women who are at risk of premature ovarian failure due to medical treatments involving anti-cancer agents, radiation therapy, or pelvic surgery. However, the efficacy of fertility preservation is still limited, and an understanding of the mechanisms that maintain dormancy and activation of primordial follicles and early follicular growth in the ovarian microenvironment is necessary to improve the clinical results of fertility preservation.

In this mini-symposium titled "The role of the ovarian microenvironment in the maintenance of ovarian reserve and healthy follicular growth", the effects of ovarian steroid hormones, anti-Müllerian hormone, and pelvic inflammation on the activation of primordial follicles and early follicular growth are reviewed by Dr. Kimura, Dr. Nakamura, and Dr. Kitajima, respectively. Additionally, the safety of ovarian tissue transplantation in cancer patients is reviewed by Dr. Iwahara.

I hope this collection of mini-reviews will enhance the attention of reproductive biologists and physicians with respect to the clinical features of fertility preservation and may provide valuable information leading to improvements in clinical results.