CHAPTER 19

ANDROGENS, ENDOMETRIUM AND RECEPTIVITY GENES

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Does the endometrium age?

In contrast to "ovarian aging" data coming from endometrial aging studies are contradictory. By using oocyte donation model one study reported that endometrial aging does not affect fertility outcome. Other studies concluded that age related decline in implantation rates could be associated with decreased endometrial receptivity. In a recent study conducted by Sekhon et al. investigated the impact of endometrial ageion implantation and clinical pregnancy rates in women undergoing in vitro fertilization. They used either donor or autologous oocyte while controlling for oocyte quality by using genetic screening test. They have reported that the number of retrieved oocytes decreased 2.5% per each additional year of oocyte age. In contrast, insignificant decline in the endometrial thickness per each additional year of recipient age has been reported. They have concluded that endometrial aging does not contribute to age-related decline in fertility. On the other hand, it should be noted that endometrial thickness is not main determinant of the endometrium receptivity. Decline in endometrial thickness does not mean decline in endometrial receptivity. While some women having increased endometrial thickness can exhibit low implantation rates women having decreased endometrial thickness may show high implantation rates (1-3).

Is endometrium an intracrine organ?

All extra-gonadal tissues consist of intracrine enzymes which able to transform androgens to estrogens and its variants. This cell specific intracrinology leads to production of androgens and estrogens locally according to the cell specific needs without biologically significant release of this steroids into blood circulation. Transformation of the DHEA to androgens and estrogens in extragonadal tissues are restricted to the altered expressions of the steroidogenic enzymes, making the metabolism of DHEA tissue-specific. Hence, peripheral interconversionof DHEA ranges from none in the some target tissues to various in the others (4).

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