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The mechanism of anovulation in women with polycystic ovary syndrome (PCOS) has not been completely understood. However, recent advances in the knowledge about the paracrine modulation of gonadotropin action by the gonadal steroids and polypeptide factors in ovaries have pointed the way toward a possible explanation for the failure of follicular maturation which characterizes anovulation of patients with PCOS. The hyperstimulated LH by the increasing follicular androgen might contribute to anovulation.

The efficacy of clomiphene citrate (CC) on anovulatory patients including PCOS has been well established. Moreover, either gonadotropin administration or bilateral wedge resection have also proved the advantage to induce ovulation in CC-unresponsive patients. The conventional daily intramuscular injection of hMG has been always associated with the haunting spectre of severe ovarian hyperstimulation syndrome and of unfavorable multiple pregnancies. The response to the ovarian wedge resection is variable in every patient. Few patients resume ovulation permanently, while most patients return to their anovulatory condition in several months. Furthermore, the new complication of postsurgical adhesion is always associated with the surgical procedure. The induction of ovulation in CC nonresponders has been frustrating.

Recent studies on the treatment of PCOS, including bromocriptine, pulsatile administration of GnRH, laparoscopic ovarian resection or pure FSH have shown to be effective for induction of ovulation and establishment of pregnancy in PCOS cases.

In the present conference, the pathophysiology of PCOS and the underlying mechanism of induced ovulation by several treatments are assessed by the determination of hormonal dynamics. Dr. Ito and Dr. Tai have addressed the effectiveness of medical management of PCOS. Relative features of laparoscopic surgical techniques have been applied to bilateral ovarian resection by Dr. Utsunomiya. Dr. Tasaka has demonstrated the effectiveness of electrical cauterization of ovaries for induction of ovulation in patients with PCOS. Finally, we have reported that pulsatile subcutaneous administration of hMG or FSH is effective in establishment of singleton pregnancies in patients with PCOS.

I hope that the reports in this symposium will stimulate others to try the same technique. Any new approach is welcome, but careful evaluation of the risk/benefit equation of these treatments in patients with PCOS should have the highest priority.