

## ORAL CONTRACEPTIVES AND THEIR FUTURE\*

By

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The use of oral contraceptives for fertility control in women is now accepted and widely practised. There are a number of different preparations marketed by different commercial companies. The various preparations consist of a progestogen and an estrogen. The combination has certain advantages in the control of the menstrual cycle in that the break-through bleeding and spotting occur less often. The oral contraceptives act by inhibition of ovulation by the suppression of pituitary gonadotrophins. Other mechanisms of action involve the action of oral contraceptives on the ovary, on cervical mucous and the female reproductive tract in general. Some of the side effects associated with the use of oral contraceptives have been extensively investigated. Their action on metabolism has also received attention. In our laboratory certain aspects of the mode of action, effect on liver function and excretion of those contraceptive in milk during lactation are under investigation.

Using constant infusion of radioactive norethynodrel (progestational component of the widely used oral contraceptive Enonid ) it has been found that significant amounts of the steroid is localised in ovary which possibly indicated that the progestational compound may be acting directly on the ovary. Excretion of radioactivity after oral administration of radioactive norethynodrel to lactating women has indicated that these oral contraceptives are excreted in the breast milk. Further experiments have shown that these may possess some estrogenic activity. The binding of radioactive norethynodrel to some milk proteins has also been studied to learn about the mode of transport of the oral contraceptive to the mammary site. Oral administration of norethynodrel and 17- $\alpha$  ethinyl-estradiol-3-methylether and study of liver function tests have shown that oral contraceptives do not effect liver function in these animals after prolonged treatment.

Some of the recent advances in the use of oral contraceptive for conception control relate to the use of sequential therapy or continuous low dosage use of progestational compounds. Other newer development involve use of 'mini' dose of an oral progestational compound for fertility control. Depot injections of progestational compound have also been used to achieve control of fertility, however, there are side effects associated with frequent bleeding. Extensive investigations are also underway to develop a 'morning after', or after the act' pill. Steroid containing creams have also received attention of researchers. Efforts are being made to develop an oral progestational compound filled silastic implant to be put under the skin for fertility control.

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