Invention of Contraceptive Pill

Jayant Pai-Dhungat

Contraceptive methods have been tried since antiquity. Ancient Egyptian women used ground crocodile dung mixed with honey, dates and acacia as pessaries. Bible and Koran both refer to coitus interruptus (withdrawal method). In the Middle East, breast feeding for up to 3 years was recognized as an important form of contraception. During middle ages, with minimal understanding of physiology, pig’s bladder was used as barrier cervical caps but was clumsy and difficult to use.

In 1912, Margaret Sanger (1879-1966), nurse and veteran campaigner on women’s health, coined the term “birth control” and opened the first birth control clinic in Brownsville, Brooklyn, started as Birth Control League, the precursor of Planned Parenthood. In 1921, Haberlandt from Austria proposed that sex hormones might be used as contraceptives, but the difficulty was its high cost. Breakthrough came when Russell Marker, an American chemist investigating Mexican wild yam found that he could transform diosgenin from yam into progesterone (1940). His colleagues Carl Djerassi and others synthesized cortisone and testosterone from the same yam. A team under Djerassi modified progesterone to norethisterone which was far more active than human progesterone. Thus in 1951, Carl Djerassi, an Industrial chemist in Mexico City, created a pill on chemical level. However, Djerassi was not equipped to test, produce or distribute it. This substance was sent for assessment to Gregory Pincus (1903-1967) and John Rock (1890-1984) who had worked on it for a long time. They conducted first human trial on 50 women in Massachusetts successfully, using progesterone. They tested the compound norethisterone in rats and found it to be far more active. Margaret Sanger had immediately recognized the potential of newly synthesized norethisterone and met Gregory Pincus at a dinner party in New York, persuading him to work on a birth control pill. He then met gynecologist John Rock who had already begun testing chemical contraception in women. In 1953, Sanger and Pincus met Katherine McCormick, a biologist, women’s rights activist and an heiress to a great fortune. She heard about the project and immediately signed a cheque for $40,000 as research grant for clinical trials.

This research grant culminated in large scale clinical trials with the new substance in women from Massachusetts, Puerto Rico, Haiti, Mexico and California, supervised by Pincus, Rock and others. The pill was deemed 100% effective, but some serious side effects were ignored. Because contraception was illegal in Massachusetts due to objection from religious groups, initial tests were to treat infertility rather than to prevent pregnancy. At other places there were no laws against birth control. In 1960, the pill was approved by FDA. After 2 years, 1.2 million American women were on pill and after 5 years, 6.5 million American women were on pill, making it the most popular form of birth control. However, the Catholic Church opposes birth control till today.

Initially, the dosage of estrogen used was arbitrary and often excessive, leading to side effects which were increasingly noted e.g. thrombosis, migraine and jaundice. Later it was advised that the pill should contain no more than 50 micrograms of estrogen.