STUDIES ON SERUM LIPIDS AND LIPASE ACTIVITY IN WOMEN USING ORAL CONTRACEPTIVES

by

PUSHPA GUPTA,* M.S., P. K. SHARMA,** Ph.D., S. SHARDA,*** M.D.,
SOM NATH,**** M.B.,B.S., M.Sc., M.A.M.S.

Introduction

The effect of oral contraceptives on the lipid metabolism has been studied by many workers (Aurell *et al*, 1966; Wynn *et al*, 1966; Gershberg *et al*, 1968; Stokes and Wynn, 1971, and Dhillon *et al*, 1972). However, the reports are controversial and are restricted to the short term usage of the oral contraceptives. It was, therefore, considered pertinent to undertake a detailed study of different serum lipids and lipase activity in women using oral contraceptive pills for more than one year to more than 3 years.

Material and Methods

The women are attending the Family Planning Centre of J.L.N. Medical College and Hospital, Ajmer. They belong to 18-42 years of age group. The pill taken is ovulen. The subjects are divided into 4 groups:—

Group I:—25 normal healthy women to act as control.

Group II:—21 women using oral Contraceptives for last 2 years.

Group III:—19 Women using oral Contraceptives for last 3 years.

Group IV:—20 Women using oral Contraceptives for more than 3 years.

Each woman had complete physical examination, including haemoglobin estimation, total R.B.C. and W.B.C. count. The venous blood was collected from each subject by a standard aseptic technique.

Total fat was estimated by Sperry & Brand's method (1961), Phospholipids by the method of Zilversmith and Davis (1950), NEFA by the method of Trout *et al*, (1960), cholesterol by Bloor, Pelkan & Allen's method (1922) and lipase by the method of Cherry and Crandall (1932). The lipoproteins were separated by Agargel electrophoresis (Pushpa Gupta *et al*, 1973) and stained with Sudan black and scanned to calculate percentage.

Results

Results are given in Table 1 and Fig. 1.

It is evident from the Table that in women using the oral contraceptives, belonging to any group, there is a highly significant rise ($p > .01$) in total fat, NEFA & B lipoprotein when compared with the control subjects. However, there is no significant variation in the fat contents of the women using the pills in Groups II, III and IV. The phospholipids and total cholesterol are found to be slightly raised but the rise is statistically

*Professor and Head of the Department of Obstetrics and Gynaecology.
**Reader in Biochemistry.
*** Lecturer in Physiology.
****Professor and Head of the Department of Physiology and Biochemistry,
Jawahar Lal Nehru Medical College, Ajmer.
Received for publication on 17-7-74.