

# STUDIES ON CERVICAL MUCOUS OF PATIENTS TAKING LYNESTRENOL FOR CONTRACEPTION\*

H. NAFICY, M. D. \*\*

H. PARSA, M. D. \*\*

**ABSTRACT** Lynestrenol 0.5 mg. (Erluton) given to patients orally from the first day of their cycle in a continuous manner suppressed cervical mucorrhea and spinbarkeit sufficiently enough to stop sperm penetration to the cervical canal. Fern reactions were mostly negative and all post-coital examinations (Sims Huhner tests) showed an absence of spermatozoa.

\* This study was supported by the School of Public Health and the Institute of Public Health Research, University of Teheran, under a grant from Organon Pharmaceutical Company, Holland.

\*\* Department of Obstetrics and Gynecology, Saleh Hospital, School of Medicine, University of Teheran.

**INTRODUCTION** As has been mentioned by Cohen, studies have shown that progestogenes can be effective in preventing conception in at least four ways: (1) Ovulation inhibition, (2) Prevention of sperm migration through the cervix, (3) Interference with nidation and (4) Possibly prevention of sperm capacitation in the fallopian tubes. Although this is true, the Mini pills are supposed to have such a small amount of progesterone that it mostly affects the physiochemical properties of cervical mucous and thus interferes with normal sperm penetration in the cervical canal.

The purpose of this study was to realize the effects that lynestrenol can and does have on the mucous membrane of the cervix and how this effect helps to prevent contraception. To do this study the cervical mucous of a group of patients, who were taking lynestrenol 0.5 mg. (a 19 Nor testosterone group progres-

terone) regularly and continuously, was examined and recorded.

## METHOD OF STUDY

Random cervical mucous was obtained from clinic patients taking lynestrenol. This mucous was taken by first inserting a dry speculum into the vagina and exposing the cervix and then by means of a Russian forceps, a quantity of mucous was removed. When the mucous was too tenacious to be taken by this method, a cotton swab was used to remove the specimen. Part I of this study consisted of doing 133 examinations of cervical mucous on patients who were taking lynestrenol and were coming on regular, routine visits.

In Part II of the study a group of 12 clinic patients were chosen in a control group. Cervical mucous examinations were done on these patients several times while they were not taking lynestrenol. After these patients were put on lynestrenol they were examined regularly every other day from the 7th to 20th days of their control cycles. This data was compared with the findings of the months in which they were not on lynestrenol.

## RESULTS

In the 133 consecutive clinic patients, cervical mucous was obtained from cycle day 5 to cycle day 30. Almost in all instances, cervical mucous was scanty and thick and exhibited little or no spinbarkeit (thread-like stretchability). Table I shows the fern test results according to the cycle day when the mucous studies were made. 121 showed a negative fern reaction and 10 showed an atypical fern reaction and only 2 showed a good positive fern pattern. These two instances were found on cycle days 5 and 7 respectively. In all cases post-coital examinations (Sims-Huhner tests) were negative.

In the group of 12 selected clinic patients, control cycles showed good to excellent thin cervical mucorrhea at mid-cycle. After the patients were taking lynestrenol (0.5 mg.) daily in continuous fashion, we found that cervical mucorrhea was inhibited. Refer to Table II. Mucous was scanty, thick, or at the most moderate in quantity, and results of the fern tests are shown in Table II. There were no positive fern reactions and there was not a single positive post-coital test. Only 5 patients came every 11 of the 12 patients a mid-cycle post-coital test was done.

## DISCUSSION

In this study we have shown that lynestrenol (0.5 mg.) daily taken in continuous fashion has a profound cervical mucous inhibiting effect. It is our opinion that this effect alone is sufficient to prevent conception. Whether this effect on cervical secretion results

from direct action upon cervical glands, is secondary to pituitary inhibition with ovarian suppression of ovulation, or is a combination of the two, is not clearly known as yet. There are studies that show absence of L.H. peak in 60% of patients taking lynestrenol 0.5 mg. daily. And also a normal looking corpus luteum has been found in many patients taking this progestrogen. (This author has seen on 3 occasions patients having laparotomy for tubal ligation while taking this hormone.)

In our opinion, lynestrenol (0.5 mg.) tables taken daily in continuous fashion has a direct effect on the physiochemical properties of cervical mucous, even though it may not be the only mechanism of action for this drug.

TABLE I

Random mucous studies in clinic patients taking lynestrenol (0.5 mg. daily).

CYCLE DAY	FERN TESTS		
	NEGATIVE	ATYPICAL	POSITIVE
5-6	4	—	1
7-8	6	—	1
9-10	4	1	—
11-12	11	1	—
13-14	8	—	—
15-16	12	2	—
17-18	10	1	—
19-20	12	—	—
21-22	10	1	—
23-24	16	1	—
25-26	16	2	—
27-28	11	1	—
29-30	1	—	—
TOTAL	121	10	2

TABLE II

Mucous studies on 12 Clinic patients as control group.

CYCLE DAY	POSITIVE SIMS			
	NEGATIVE	ATYPICAL	POSITIVE	HUHNER TESTS
7	12	—	—	—
9	9	—	—	—
11	10	1	—	—
13	11	1	—	—
15	8	—	—	—
17	9	1	—	—
19	10	1	—	—
21	10	—	—	—
TOTAL TESTS	79	4	0	0

Atypical fern tests were only found in two patients and the other ten patients always had negative fern tests.

- BIBLIOGRAPHY** Cohen, M.R., "Cervical Mucorrohea and Spinnbarkeit in Patients taking Norethindrone plus Mestranol". *Fertil Steril* 19 : 405, 1968.
- Cohen, M.R., and Perez-Pelaez, M. "The Effect of Norethin-drone acetate-ethinyl estradiol, clomiphene citrate, and hydro-gesterone on Spinnbarkeit." *Fertil Steril* 16 :141, 1965.
- Marcus, S.L. and Marcus, C.C. "Cervical Mucous and its Rela-tion to Infertility". *Obstetric and Gynecology Survey* 16:749, 1963.
- McSweeney, S.J. and Sharra, S.J. "A Ned Cervical Mucous Test for Hormone Appraisal." *American Journal of Obstetrics and Gynecology* 88 :705, 1964.
- Moghissi, K.S. and Neuhaus, O.W. "Cyclic Changes of Cervical Mucous Protein." *American Journal of Obstetrics and Gynecology* 96 :91, 1966.