

# A CASE OF ECTOPIC PREGNANCY ASSOCIATED TO PROGESTOGEN TREATMENT

by

D. SULTAN SHERIFF,\* M.Sc., Ph.D., F.A.Z.

## Abstract

Abnormalities associated with the fallopian tube account for many ectopic pregnancies. Functional abnormalities of the tube are related to the use of progesterone-only contraceptives. The oral contraceptives affect the tubal function by slowing the passage of ovum through the fallopian tube. This may be due to an effect on tubal musculature or the cilia of the epithelial lining. In the present case, tubal pregnancy was observed during the 4th cycle of the intake of Gestanin by the patient. The endogenous levels of oestrogens and progesterone appear to be normal in normal follicular and luteal phases of the cycle reflected by the patient's hormone excretory pattern. During the period of gestation, the levels of pregnanediol excretion seems to be low upto the 12th week of pregnancy and also during 12th week of conception before abortion. It is reported that synthetic progestin delays the passage of ovum in human oviduct. The intake of oral progestogen by the patient had acted as an additional factor to cause tubal pregnancy in patient with previous history of molar pregnancy and frequent abortions.

Abnormalities of the fallopian tube which compromise the structure and function of the organ account for the majority

\*The Salem Institute of Experimental Biology  
49, Paul Street, Salem-636 001. Tamil Nadu,  
India.

Accepted for publication on 26-10-81.

of ectopic pregnancies. Most structural abnormalities of the tube are congenital or secondary to infection. Predominantly functional abnormalities of the tube seem related to the use of progesterone-only oral contraceptives may affect the tubal function and slow the passage of hte ovum to the uterus (Bonnar 1974). This may be due to an effect on tubal musculature or the cilia of the epithelial lining (Burke and Buch 1977). In this paper a case of ectopic pregnancy is reported in a patient who was taking an oral progestogen.

## CASE REPORT

Patient, a 22 year old woman complained at admission of lower abdominal pain and uninterrupted vaginal bleeding for last 21 days. She had been bleeding since her last menstrual period. She denied any history of shoulder pain and pain on defaecation. Gynaecological examination revealed right adnexa to be normal with fullness and tenderness in the left adnexa. Her haemoglobin level was 10.5 gms/100 ml; haematocrit value: 35; WBC: 6500/cmm. Pregnancy test was negative. Laparotomy showed the uterus to be normal in size, the right tube with kinks and tubal abortion was observed in the left tube in the isthmus region. Histopathological examination of the excised material confirmed it to be tubal pregnancy with numerous young villi with decidual reaction. The endometrium showed no decidual reaction.

The patient attained menarche at the age of 14 years. She had irregular periods. Her first pregnancy was at the age of 17 years was molar in nature. Her second pregnancy was normal and gave birth to a male child. Throughout her second pregnancy she was kept on Duogynon and Proluton. 1

injections (from 3rd month onwards when she had spotting). Following her delivery she had 2 abortions within an interval of 4 months between the two abortions. Both abortions took place in the third month. She was then put on Gestaoin (17  $\alpha$ -allylestr-4-en-17N-ol, Organon Laboratories), an oral progestogen from 19th day of her cycle for 7 days (3 tabs/day) continuously for 4 months. During the fourth cycle she presented with the above symptoms. Her previous history and intake of oral progestogen made on to think of dysfunctional uterine bleeding.

#### Urinary Hormone Analyses

Urinary levels of oestrogens and pregnanediol were estimated in the patient during follicular, luteal phases in 10 normal cycles by the methods of Brown et al (1957) and Feher et al (1970). The levels were compared with the mean levels of ten normal volunteers 20 to 25 years old. The levels of hormones were also estimated during the third month of normal pregnancy and during the third month before abortion (subsequent to 6 months after delivery).

#### Results

As shown in Table I she had normal levels of oestrogens and pregnanediol in follicular phase

and luteal phase of the cycle. During the third month of pregnancy and third month before abortion, the levels of oestrogens appear to be normal, whereas the level of pregnanediol was low when compared to normal controls ( $p < 0.05$ , Table I).

#### Discussion

Continuous progestin treatment (megesterol acetate) was reported to delay ovum transport. In the patient studied the timing of ovulation was determined using the rise in basal body temperature and the changes in the physical characteristics of the cervical mucus and found that ovulation seem to occur during 18 to 21 days of her cycle. The levels of oestrogens and progesterone appear to be compatible with normal ovulatory menstrual cycle. During the period of gestation the level of pregnanediol appears to be low when compared to control group. This low levels of progesterone during pregnancy period appear to be not sufficient to maintain pregnancy as evidenced by the need for hormonal injections through the period of

Hormone Excretory Pattern of the Patient

	Oestrone	Oestradiol ugs/24 hours	Oestriol	Pregnanediol mgm/24 hours
1. Follicular Phase				
Patient's	4.20 $\pm$ 0.20	5.10 $\pm$ 0.25	6.00 $\pm$ 0.28	0.38 $\pm$ 0.10
Normal	5.70 $\pm$ 1.10	3.20 $\pm$ 0.60	6.00 $\pm$ 0.90	0.50 $\pm$ 0.20
2. Luteal Phase				
Patient's	16.00 $\pm$ 0.40	7.00 $\pm$ 0.55	24.00 $\pm$ 1.80	2.00 $\pm$ 0.10
Normal	15.00 $\pm$ 2.50	7.20 $\pm$ 0.55	25.00 $\pm$ 3.50	2.50 $\pm$ 0.40
3. 12 weeks of pregnancy		mgms/24 hours		
Patient's	1.05 $\pm$ 0.08	0.50 $\pm$ 0.06	23.00 $\pm$ 1.80	*1.88 $\pm$ 0.36
Normal	1.10 $\pm$ 0.10	0.60 $\pm$ 0.10	28.00 $\pm$ 3.00	3.60 $\pm$ 0.60
4. 12 weeks of gestation				
Before abortion				
Patient's	1.00 $\pm$ 0.05	0.48 $\pm$ 0.05	21.00 $\pm$ 2.10	*1.60 $\pm$ 0.40
Normal	1.15 $\pm$ 0.20	0.60 $\pm$ 0.15	26.50 $\pm$ 3.10	3.75 $\pm$ 0.66

Values are means  $\pm$  SEM of 10 estimations per group.

\*  $p < 0.05$ .

pregnancy and the subsequent two abortions in the absence of injections.

nancy might be associated with this therapy.

The oral supplementation of a progestogen in the form of Gestanin did maintain pregnancy but it was found to be a tubal one. The tubal pregnancy observed during the fourth cycle (fourth month) of intake of the progestogen in the patient makes one to speculate that the oral progestogen might have delayed the transport of the ovum. This would have acted as an additional factor to cause tubal pregnancy in a patient with a previous history of molar pregnancy and repeated abortions.

The present report suggest that luteal supplementation should be exercised with caution bearing in mind the possibility that an increased risk of ectopic preg-

*Acknowledgement*

The author is very grateful to Prof. H. B. Croxatta for his critical review of the manuscript and advice. The technical assistance of Mr. T. Ravikumar and H. Fathima is appreciated.

*References*

1. Bonnar, J.: Brit. Med. J. 1: 287, 1974.
2. Brown, J. B., Bulbrook, R. D. and Greenwood, F. C.: J. Endocrinol. 16: 41, 1957.
3. Burke, M. and Buch, P.: Ectopic pregnancy: A changing picture. J. Appl. Med. 3: 501, 1977.
4. Feher, T., Feher, K. C. and Bodrog, L.: Acta. Med. Acad. Sc. Hungarical Tonns 27: 298, 1970.