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In present study 30 cases were studied for evaluation of hormonal effects of centchroman. Among them 46.6% cases were in the age group of 24 - 27 years with maximum (40%) cases of second parity who opted centchroman for contraception.

Only those cases were selected who had cycle length of 28 ± 2 days in pretreatment phase. In our study in all the three treatment cycles 6 cases (20%) showed delay in cycle from 31-45 days but not more than 45 days. Vaidya et al (1977) observed with doses of 60 mg and 120 mg weekly that centchroman at both doses increased cycle length by prolonging the follicular phase of treatment cycle. Mean cycle length during pretreatment cycle was 29 days with range of 28 - 31 days. During second treatment cycle it was 21 - 36 days which was acceptable, but 8.4% of these cases who showed delay in cycle had prolonged cycle more than 45 days. The short and prolonged cycle did not
present any consistent pattern and were not found to be restricted to individual. Post treatment cycle showed range in cycle length from 27 - 32 days (Annual Report C.D.R.I. 1981).

Only one case (3.3%) showed short cycle which was less than 25 days in first treatment cycle but cycle became normal in next subsequent treatment cycles. Short cycle length in 2 volunteers were observed during control period in spite of history of previous cycle length being 28 ± 2 (Vaidya et al., 1977).

In pretreatment group most of the cases (60%) had duration of flow ranging from 2 to 3 days. In first treatment cycle only 40% cases had duration of flow from 2 to 3 days. But there was increase in cases from 40% in pretreatment phase to 50% in first treatment cycle who had duration of flow from 4 to 5 days. 10% of cases had duration of flow more than 6 days in first treatment cycle. Again in second and third treatment cycle approximately 60% cases had duration of cycle from 2 - 3 days and it was similar to pretreatment cycle. In post
treatment cycle duration of flow was 4 - 5 days in 50% of cases whereas the rest of cases had duration of flow from 2 - 3 days. So the change in duration of flow in treatment cycle was not explainable as a effect of centchroman when compared to that of pretreatment cycle and post treatment cycle.

Amount of flow in most of the cases showed no change during treatment cycles and in post treatment cycle but it was excessive in approximately 10% cases in treatment cycles and 6.6% cases in post treatment cycle. The decreased flow was noticed in 13.3% cases in first treatment cycle. So the excessive flow/scanty flow was not seemed to be related with centchroman.

In our study there was fall in karyopyknotic index during treatment cycles and this K.P.I. was raised in post treatment cycle when drug was withdrawn. This showed anti oestrogenic effect of centchroman. Vaginal cyt hormenal pattern indicated a distinct antioestrogenic effect at both the dose level 60 mg/weekly and 120 mg/weekly all throughout treatment period. (Vaidya et al, 1977).
Antiestrogenic property of centehromen was also observed when injection/oral administration of oestrone (1 µg/animal) to immature female rats was done. It increased the uterine weight and caused vaginal cornification at all doses. Simultaneous administration of oestrone and centehromen (0.125 mg/Kg to 5 mg/Kg) oral or parenteral also caused a significant increase in uterine weight but extent of utero trophic response was less than that produced by oestrone alone. The vaginal cornification was also suppressed (Kampf et al., 1977).

In antiestrogenic studies centehromen exhibited very weak anti uterostrophic activity in intact immature mice when it was administered concurrently with ethinyl estradiol. Antiestrogenic activity measured by vaginal cornification test in ovariectomized rats was not demonstrable. A single dose of centehromen effectively blocked mitotic activity in glandular and lumina epithelium of uterus on day 3 of pregnancy. This showed antiestrogenic action of centehromen at the cellular level in uterus (Kamshi et al., 1977).
Mature index also showed corresponding increase in number of intermediate cells and decrease in superficial cells in relation to karyopyknotic index.

In the present study of cervical mucus for spinnbarkeit test on 8th and 14th days of cycle showed decreased length of stretchable cervical mucus but changes were not very noticeable and no change was noticed in spinnbarkeit test on 22nd day of cycle. Similarly fern test which was done on 8th, 14th and 22nd day of cycle showed no marked difference. Cervical mucus pH study in present series did not reveal any distinct change. So it again had confirmed that antiestrogenic activity of oestrogen which had not so marked effect at 30 mg/weekly dose schedule. Cervical mucus seemed to retain antiestrogenic activity all throughout the treatment period. However, cervical mucus did show different in response at 60 mg/weekly schedule compared to 120 mg/weekly schedule. The antiestrogenic effect on cervical mucus was not so noticeable when dose
reduced to 60 mg/weekly schedule (R. Vaidya et al, 1977). Maximum cervical score during pretreatment cycle, treatment cycle and post treatment was similar. However, the day of peak score shifted in accordance with cycle duration (Annual Report C.D.R.I., 1981).

Endometrial biopsy was not done as none of the cycle got prolonged more than 45 days. The prolongation of cycle was in different cycles in different cases. In present study 20% cases in all the cycle showed delay in period which ranged from 31 - 45 days but not more than 45 days so it could not be explained by effect of exanthemen. Dizziness, on the day of drug intake was in 6.6% cases and itching, over vulva on the day of drug intake was 3.3%. In none of the case any change in blood pressure was noted.

A study was carried out by Chandra et al (1977) in young male and female volunteers as a double blind non cross over trial to detect any unpredictable side effects or toxicity which could not have possibly been detected in the animals. From the study it was apparent that
Cantachromin was well tolerated at very high doses of 320 mg, which is several fold higher than therapeutic dose. Subjective symptoms like giddiness, headache and weakness reported by a few volunteers did not seem to be related to drug. Since similar effects were noticed in the group receiving placebo tablets. There was no significant change in pulse and blood pressure. Cantachromin is well tolerated by women at doses of 80 mg/day and 120 mg/day for 30 days. There was no evidence of any toxic effect. None of the volunteers reported any gastrointestinal disturbance or any allergic manifestation. Minor other symptoms do not seem to related with drug since similar effect were observed in subject receiving placebo tablets and they were not dose related. Disturbance of menstrual cycle occurred in control as well as patient on cantachromin and therefore it was difficult to assign this effect on cantachromin.