

VAGINAL CYTOLOGY IN NORMAL PREGNANCY AND CLINICALLY THREATENED ABORTION

by

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A total of 200 cases attending the antenatal O.P.D. at B. Y. L. Nair Charitable Hospital were studied. One hundred and twenty five cases of normal pregnancy and 75 cases of clinically threatened abortion were selected for this study. The present study was undertaken to evaluate the pattern of vaginal cytology in normal pregnancy and abortions and to correlate it with the clinical condition of the patient.

Smears were taken weekly in patients with normal pregnancy. Smears were collected from the posterior and lateral wall of the upper third of the vagina with a cotton swab on a stick, fixed in ether and alcohol and stained with Shorr's stain to evaluate the hormonal pattern. Smears were also taken from the external os and stained with Papanicolaou's technique. The patients presenting with bleeding per vaginam and diagnosed as threatened abortion were admitted in the wards and smears were done on alternate days till the bleeding

stopped and then at weekly intervals up to the 28th week. All these cases were kept under clinical observation till the time of their delivery.

Observations

Smears were studied as regards the type of different cells, presence of red blood cells, leucocytes, clumps of intermediate cells and Doderlein bacilli. Differential count of superficial, intermediate and basal cells was made.

Group A

One hundred and twenty five cases of apparently normal pregnancy were studied. The outcome of these cases was as follows:

125 cases: 90 normal delivery
2 intrauterine death
5 premature delivery
3 toxæmia
25 lost to follow up.

These cases were studied from the 10th week of pregnancy and vaginal cytology was done regularly. In 119 cases, the pattern was similar to that in early pregnancy; there were increased number of leucocytes and basophilic intermediate cells, the latter having curled edges and tending to clump together. After the 14th to 16th week, the navicular cells from

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the intermediate layer were found in increasing abundance in small dense clusters and they were predominant over the superficial cells and basal cells. Leucocytes and Doderlein bacilli were found in abundance. No red blood cells were found in these cases. In most of the cases, the M.I. varied between 0/95/5 to 0/100/0; only in a few cases upto 8 per cent superficial cells were found.

Ninety cases were followed to term and in a few cases postpartum smears were also taken to evaluate the postpartum vaginal cytology pattern. In 90 cases vaginal cytology was also done in the 39th-40th weeks of pregnancy. The number of clusters of navicular cells diminished and there was increased number of isolated and flattened cells and a rise in the K.P.I. All these cases delivered normally.

% of K.P.I. & E.I. in relation with weeks of pregnancy

In 2 cases on regular antenatal follow up at 38 weeks very high K.P. and Eosinophilic index was found. The clusters of intermediate cells were not well formed. Few parabasal cells were seen in one case.

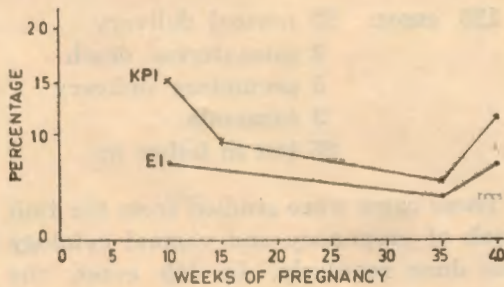


Fig. 1

% of K.P.I. & E. I. in relation with weeks of pregnancy.

Foetal jeopardy was suspected on the basis of cytology. Plain X-ray abdomen

showed signs of I.U.D. Both fetuses were still born.

Out of the 5 cases who had premature delivery, in 3 cases during labour the cytological picture of an increase in superficial cells and a decrease in intermediate cells was observed. No change was observed in the cytological pattern in the remaining 2 cases.

Three cases in our series of 125 later developed toxæmia i.e. high blood pressure, oedema and albuminuria; no significant change in the cytohormonal pattern was observed by us in these cases.

Unfortunately, 25 cases were lost to follow up. Some of them did not attend antenatal after 3-4 initial visits and rest of them went elsewhere for their delivery.

Group B

Seventy-five cases of clinically threatened abortion were studied.

On the basis of our findings superficial cells up to 10 per cent were taken as the upper limit of normal during the first and second trimesters. Smears showing more than 10 per cent were taken as indicating progesterone deficiency. Hence, we formulate the following criteria to judge the progesterone effect:

(1) 10 per cent or less K.P.I. with predominant intermediate and navicular cells clumped together and presence of cytolysis indicates good progesterone effect.

(2) 10-20 per cent K.P.I. intermediate cells predominant but no clumping effect seen indicates moderate progesterone deficiency.

(3) 20 per cent or more K.P.I. very few intermediate cells and clear smear indicates severe progesterone deficiency.

Total No. of cases of clinically threatened abortion	75	}	43 good progesterone effect	}	14 severe deficiency
			32 progesterone deficiency		18 moderate deficiency

Out of 75 cases, 43 showed good progesterone effect, i.e., K.P.I. of less than 10 per cent, predominance of intermediate and navicular cells with clumping and cytolysis, of these 43 patients with good progesterone effect, in 1 patient incompetent os was diagnosed. Tightening of the os was done and she went to full term and delivered normally. In 2 patients, V.D.R.L. was positive and they were treated with P.A.M. injections. Of the remaining 40 cases, 11 aborted out of which one had vesicular mole. Twenty patients were attending antenatal beyond the critical period and 9 patients delivered normally.

Of the 32 patients with progesterone deficiency, 14 had severe deficiency and 18 had moderate deficiency. All the patients were advised weekly injections of Proluton Depot 250 mg. (17 hydroxyprogesterone caproate) and Tab. Gestanin 1 tablet three times a day. Of the 32 patients, 24 were admitted in the wards and in addition to rest and luminal, above treatment with Proluton and Gestanin was given till the seventh month of pregnancy. Eight patients went to full term and delivered normally. Ten patients are continuing beyond the critical period; one of these 10 patients also had V.D.R.L. positive and was given P.A.M. simultaneously. Six patients aborted inspite of treatment.

Out of the 8 patients who refused admission and treatment, 2 continued to term, 4 aborted and 2 were lost to follow up. Some of them took 2-3 injections irregularly and some did not take at all.

Coincidentally, all the patients except

one with severe progesterone deficiency agreed to take Proluton. Out of 14 patients of severe progesterone deficiency, 5 aborted, i.e. approximately 42 per cent aborted inspite of treatment; 1 patient who did not take treatment also aborted. Of the 18 patients with moderate deficiency, 11 patients agreed to take treatment but 1 aborted. Out of 7 who did not take treatment, 3 aborted.

In our series we found that in the patients with progesterone deficiency, progesterone substitution was useful. We also found that those with moderate progesterone deficiency respond more to the progesterone supplement and foetal salvage is better than those with severe progesterone deficiency.

On screening the slides of all the 200 patients, no evidence of any malignancy was observed.

Summary

Vaginal cytology was done in 125 normal pregnant women and 75 cases of threatened abortion. The pattern of hormonal cytology in normal and progesterone deficient pregnant patients is presented. The patients of clinically threatened abortion in whom progesterone deficiency was detected by vaginal cytology responded well to the substitutional therapy with progesterone.

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See Fig. on Art Paper VIII