

CERVICAL BEHAVIOUR DURING PREGNANCY WITH SPECIAL REFERENCE TO CERVICAL DILATATION

by

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Introduction

Vaginal examination is customarily omitted during pregnancy as it has been thought to be responsible for introducing sepsis and secondly it is thought to be unnecessary. Little is thus known about the state of cervical dilatation during second half of pregnancy. When such internal examinations were carried out in some of the women during second half of pregnancy it was found that many of them were having open internal os of cervix and still having no symptoms at all. This finding led to the desire to study the condition of the internal os during second half of pregnancy.

Cervical incompetence as a cause of second trimester abortions has now been definitely established as a clinical entity. If an incompetent os can cause abortions, it is possible that a lesser degree of incompetence of the os can lead to premature labour also. The present study was therefore undertaken to establish the relationship between the time of opening of the internal os of the cervix and the gestational age at which labour ensues.

Material and Methods

One hundred and twenty-five cases attending antenatal clinics at Sassoon

General Hospital, Pune, between 20-36 weeks of gestation were included in the sample without any other criteria for selection. The condition of internal os of the cervix was noted in all these cases by making vaginal examinations with due aseptic precautions. If an examining finger could be introduced through the internal os, the latter was labelled as 'open' for the purpose of study. The remaining cases, except when the cervix was effaced, were labelled as, having 'closed' internal os. All the patients were subjected to repeated vaginal examinations at intervals of 2 weeks. At delivery the duration of pregnancy and foetal birth weight were noted and correlated with the character of the internal os during various stages of pregnancy.

The incidence of premature labour in the open os and the closed os groups were studied and compared. The cases in which obvious cause for premature delivery was found were not included in the comparative study. Thus, 5 cases were excluded from study, which included 1 of toxæmia, 3 of twin pregnancy and 1 of accidental haemorrhage.

Observations and Results

Tables 1 and 2 show the character of internal os paritywise and the outcome of pregnancy in both the open and closed os groups. Out of 120 cases studied in this way, 80 had 'open' internal os sometime during pregnancy, giving the incidence of open os as 66.66%. When these

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TABLE I

Incidence of Open Os—Paritywise and Outcome of Pregnancy in Open Os Group

Parity	Total No. of cases	No. of cases with open os.	% of open os cases	No. of premature births in open os group	% of premature births in open os group
I	40	20	50	9	45
II	24	16	66.66	1	6.25
III	14	10	71.4	3	30.00
IV	22	18	81.8	3	16.66
V & above	20	16	80.0	3	18.75
Total	120	80	66.66	19	23.75

TABLE II

Incidence of Closed Os—Paritywise and Outcome of Pregnancy in Closed Os Group

Parity	Total No. of cases	No. of cases with closed os	% of closed os cases	No. of premature birth in closed os group	% of premature births in closed os group
I	40	20	50	3	15
II	24	8	33.33	2	25
III	14	4	28.5	2	50
IV	22	4	18.18	0	0
V & above	20	4	20.0	2	50
Total	120	40	33.33	9	22.5

80 cases were analysed paritywise, it was found that the percentage of cases with open internal os at some time during the pregnancy upto 36 weeks was minimum for the primigravidas (50%) and maximum for the 4th gravidas (81.8%) above which it was fairly constant (Table 1). Thus it was found that the incidence of open os goes on increasing with increasing parity. The incidence of spontaneous premature labour was 23.75% in the open os group as against 22.5% in the closed os group. (The difference having no statistical significance).

However, incidence of premature labour in primigravid patients from open

os group appears to be higher (45%) than that from closed os group (15%).

The incidence of premature births (birth weight less than 2250 gms.) in open os group was highest in primigravidas (45%) and lowest in second gravidas (6.25%). However, this observation also is not of statistical significance.

Table 3 shows the outcome of pregnancy correlated with characters of internal os with the duration of pregnancy at the time of examination. It appears from these observations that as the duration of pregnancy goes on increasing the possibility of finding an open internal os also increases. Secondly, it has been observed

TABLE III

Outcome of Pregnancy Correlated With Characters of Internal Os and With Duration of Pregnancy at the Time of Examination

Duration of pregnancy in weeks	No. of cases with open os	No. of cases with premature deli.	% of premature deliveries
23-24	2	2	100
25-28	17	7	41.1
29-32	38	7	18.4
33-36	23	3	13.04
21-36	80	19	23.75

that earlier the internal os opens during pregnancy higher is the incidence of premature births.

Discussion

No complications of any importance resulted from the frequent vaginal examinations in these patients. In few patients the study was not completed because of the reluctance on the part of the patients. The only objection that was raised against such examinations was precipitation of bleeding in cases of placenta previa and hence the cases in which there was suspicion about the condition, the examination was not carried out.

Of 120 patients followed here, 66.66% cases were found to have an open internal os during the later half of pregnancy. The incidence of open os went on increasing with increasing parity and also with increasing length of gestation. The clinical significance of this finding appears to be minimal as the outcome of labour as judged by the incidence of premature birth was not showing much of difference (23.75% in open os group and 22.5% in closed os group). The incidence of premature delivery in open os group was highest in primigravidas (45%). Thus it appears from this observation that the cervical dilatation carries a greater signi-

ficance in primigravid patients than in multigravid patients.

The results obtained in this study are well in agreement in many respects with those obtained by Mehta who has studied this problem in detail. The overall incidence of open internal os during pregnancy observed by him in two different series was 34.6% and 24.03% respectively. Parikh and Mehta (1962) in their initial series did not find any correlation between the parity of the patient and the character of the internal os but in a more recent series Mehta (1974) has observed that the incidence of open internal os went on increasing with increasing parity as well as with increasing length of gestation. In both the series, such opening of the internal cervical os did not significantly determine the outcome of pregnancy as far as prematurity was concerned.

One more important observation of this study is that the incidence of premature labour was highest when the internal os was found to be open between 21-24 weeks. But as only 2 cases were studied from this group it requires a further study of number of cases from this group so as to get more conclusive results.

A good number of cases with an open internal os before 28 weeks of pregnancy

are found to go in spontaneous premature labour (47.4%) so it appears that a routine vaginal examination at this period will be helpful in screening out the cases in which premature labour is more likely and measures to prevent it can be taken thereafter. These measures may vary from simple bed rest and limitation of activity in some cases to various operative procedures in others.

It remains to be discussed therefore that whether the opening of the internal os carries any clinical significance or not. It appears that an open internal os is not always an incompetent one. The former merely indicates an anatomic condition which is not necessarily abnormal while the latter means a functional inadequacy which is pathological. It thus becomes evident that mere finding of an open internal os does not necessitate immediate surgical management. A conservative approach to the patients presenting with asymptomatic early cervical dilatation can safely be undertaken with close observation thereafter.

Summary

One hundred and twenty antenatal patients were submitted to frequent vaginal examinations during second half of pregnancy. The study revealed that mere finding of an open internal os of cervix in the multigravid patients does not carry any clinical significance. However, in primigravid patients it appears to be of definite clinical significance where there would be a definite place for some surgical management like various circlage procedures.

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