

## CERVICAL CULTURES IN ANTEPARTUM PATIENTS

(With special reference to pathogenic strepto cocci)

by

PRATIBHA R. VAIDYA,\*

(MISS) V. C. RAJE\*\*

and

N. D. MOTASHAW\*\*\*

Many obstetricians now recommend routine antepartum cervical and prophylactic therapy for N. gonorrhoea and haemolytic streptococci infection. B. haemolytic streptococci can produce fatal post partum infection. Hood *et al* (1961) noted complications of abortion, perinatal death, prematurity or severe illness with ultimate recovery in 37% of infants born of women with B haemolytic streptococci in their genital tract.

Franciosi, *et al* (1973) have discovered that group B haemolytic streptococcal disease of the new born could be suddenly lethal to the newborn. A relationship of new born sepsis from these organisms to positive cervical and vaginal cultures of group B streptococcus is established (Hood *et al*, 1961).

### Material and Methods

Seven hundred and ten patients attending antenatal clinic were studied for the presence of streptococcal organisms. Culture were taken from 15-20 patients at

random, from antenatal clinic with cotton swab dipped in Nutrient broth from the endocervical canal. Cultures were carried out on blood agar and streptococci were indentified morphologically. Similar cultures were also taken from a special antenatal O.P.D. of patients with a bad obstetric history to see any difference in the findings in these two groups.

An attempt was made to follow for pregnancy outcome. However, as this was only an initial screening project no treatment was given for cases having positive cultures.

### Results

Seven hundred and ten patients were studied for cervical culture. This includes 542 patients from general antenatal clinic and 168 patients from special B.O.H. clinic.

The result of these are tabulated in Table I and II.

Staphylococci, Micrococci, Yeast, Sporebeares were the organisms present in cultures grouped as culture positive for organisms other than Streptococci. No culture was positive for Streptococci. As our initial aim was to find out streptococcal infection in cervical cultures, detailed strains of these organisms were not identified.

\*Associate Professor of Gynaecology and Obstetrics.

\*\*Lab. Technician.

\*\*\*Honorary Professor of Gynaecology and Obstetrics.

K.E.M. Hospital and G.S. Medical College, Parel, Bombay-400 012.

Accepted for publication on 15-2-79.

TABLE I  
Cervical Cultures: General Antenatal Clinic

Organism	Cases Screened	Cultures Positive	Cultures Negative
$\beta$ haemolytic Streptococci	542	3 (0.55%)	539
r Streptococci non-haemolytics	542	14 (2.5%)	528
Other Organisms	542	380 (72%)	162

TABLE II  
Cervical Cultures: B O H Antenatal Clinic

Organism	Cases Screened	Cultures Positive	Culture Negative
$\beta$ haemolytic Streptococci	168	—	168
r Streptococci	168	4 (2.4%)	164
Other Organisms	168	126 (75%)	42

The follow up of general antenatal positive and negative cervical cultures in patients studied for cervical cultures is general ANC and BOH clinic respectively shown in Tables III and IV for cases with ly.

TABLE III  
Follow up: General A.N.C.: Cervical Culture Cases

Organism	No. of cases	Follow up done	Normal delivery with % of cases followed	Still birth	Premature delivery
$\beta$ Streptococci	3	3	3 (10.0%)	—	—
r Streptococci	14	6	4 (66.6%)	—	2 (33.4%)
Other organisms	380	199	188 (94.5%)	5 (2.5%)	6 (3%)
No organisms	145	74	89 (93.3%)	1 (1.3%)	4 (5.4%)

TABLE IV

Organisms	Total Cases	Follow up	N.D. with %	Still birth	Premature delivery of cases followed
$\beta$ Streptococci	—	—	—	—	—
r Streptococci	—	Nil	—	—	—
Organisms	130	50	42 (84%)	2 (4%)	6 (12%)
No organisms	38	15	12 (80%)	1 (6.6%)	2 (13.2%)

### Discussion

Whitz and Koontz (1968) and Slotnick *et al* (1963) have demonstrated that potentially pathogenic bacteria may be present in the cervix of healthy pregnant women who go on to be benign post partum cases. However, in addition to trauma and tissue damage, the presence of pathogenic organisms is a necessary condition for development of post partum infection. Patients own cervical and vaginal bacterial flora is an important source for these organisms.

On these grounds, Sokol and Walker (1973) stress that importance of bacteriologic monitoring and prophylactic therapy of antenatal patients to decrease the possibility of non hospital acquired infection with  $\beta$  haemolytic streptococci.

Hood *et al* (1961) report that B haemolytic streptococci group B was present in the genital tract from 5-6% of the pregnant women admitted to their hospital without evidence of any disease. Hood *et al* (1961) stress the importance of positive cervical cultures for streptococci group B for neonatal problems like perinatal death and prematurity and severe neonatal illness.

In editorial comments, Taylor mentions that approximately 4% of prenatal patients yield positive cervical cultures for group B streptococcus. He recommends routine prenatal cultures of the cervix for haemolytic streptococci and also advises therapy for positive cultures.

Our incidence of positive cases for  $\beta$  haemolytic streptococci was only 0.55% in general antenatal and in 0.42% in total cases. All the 3 positive cases had a full term normal delivery. Our incidence of  $\beta$  &  $\gamma$  streptococci positive cultures were 3.1% in general antenatal cases and 2.3%

BOH cases and 3.2% in total series. The incidence in BOH cases is less than general antenatal cases.

Whitz and Koontz (1968) consider  $\alpha$  haemolytic streptococci as potentially pathogenic. They found many cervical cultures positive for the pathogens, however only 2 patients had puerperal infection and only 1 of these had puerperal endometritis. High incidence of premature deliveries in  $\gamma$  streptococci positive cases required further study for confirmation with more number of cases.

We did not find any increased incidence of positive cases in BOH patients as compared to general antenatal patients.

Though the follow up of cases for pregnancy outcome was around 50%, we did not find particularly increased incidence of maternal or foetal morbidity or mortality in positive cases. The number of positive cases were too small to comment on this. However the incidence and the results of positive cases do not justify the routine cervical cultures in our antenatal patients.

### Summary

1. Cervical cultures were carried out in 542 general antenatal patients and in 168 BOH cases.
2. There was no increase in the incidence of positive cases in BOH patients.
3.  $\beta$  haemolytic streptococci were present in only 0.55% in general antenatal cases and were not present in any BOH cases.
4. There was no increase in the incidence of maternal or foetal mortality or morbidity in cases of positive cervical culture other than streptococci.
5. Increased incidence of premature

deliveries in streptococci positive cases demands further study with more number of cases.

**Acknowledgement**

We thank Dr. V. N. Purandare, Head of the department of Obstetric & Gynaecology of K.E.M. Hospital & Seth G.S. Medical College for his valuable guidance. We also thank Dr. C. K. Deshpande, Dean of Seth G.S. Medical College and K.E.M. Hospital for allowing us to publish our hospital data.

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