

BACTERIAL FLORA OF VAGINA AND CERVIX IN NORMAL PREGNANCY

Pages with reference to book, From 133 To 134

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INTRODUCTION

Pelvic infection in females often occur as a result of colonization by a variety of bacteria¹ On the vaginal and cervical epithelium. The type of organisms present in the vagina depends on pH and the enzymes in the vaginal secretions². Therefore, knowledge of the bacterial inhabitants of the vagina and cervix during pregnancy is important and could be of value in assessing the pathogenesis of several clinical entities, like premature rupture of the membrane^{3,4}. puerperal fever^{5,6} or intrapartum or neonatal infections via upper respiratory tracts or the umbilical cord⁷⁻¹⁰. Therefore, this study was undertaken to determine the pattern of bacterial flora of the vagina and cervix in pregnant women.

SUBJECT, METHOD AND RESULTS

Fifty three normal healthy pregnant women in the second trimester (20-28 weeks) were selected. Cervical and vaginal swabs were taken from each pregnant woman and brought to the laboratory in 5ml of nutrient broth for culture and microscopy (Wet mount slides). Microorganisms isolated were identified as described^{11,12}. The pattern of the bacterial flora determined is shown in Table I & II.

TABLE I. Pathogenic Organisms isolated in Vaginal and Cervical Swabs.

S.No. Organisms Isolated	<u>Vaginal Swabs</u>		<u>Cervical Swabs</u>	
	No. of Organisms	Percentage	No. of Organisms	Percentage
1. Staph. Aureus (Coagulase +ve)	16	30.2	11	20.7
2. E.Coli	3	5.7	2	3.8
3. Klebsiella Species	1	1.9	1	1.9
4. Beta Haemolytic Streptococci	1	1.9	1	1.9
5. Strept Faecalis	1	1.9	1	1.9
6. Providence Group	1	1.9	1	1.9
7. Aerobacter. Cloacae	1	1.9	—	-

TABLE II. Non-Pathogenic Organisms Isolated in Vaginal & Cervical Swabs

S.No. Organisms Isolated	<u>Vaginal Swabs</u>		<u>Cervical Swabs</u>	
	No. of Organisms	Percentage	No. of Organisms	Percentage
1. Staph. Epidermis	46	86.8	40	75.5
2. Aerobic Lactobacilli	42	79.2	39	73.6
3. Diptheroids	33	62.3	27	50.9
4. Candida Albicans	26	49.0	22	41.5
5. Alcaligenes Faecalis	7	13.2	4	7.5
6. Strept. Viridans	7	13.2	5	9.4
7. Pseudomonas Aeruginosa	2	3.8	2	3.8
8. Gaffkya Tetraenes	2	3.8	—	—

Fifteen microorganisms were isolated and identified, seven were pathogens and eight non-pathogens. Pure cultures of bacteria were rarely isolated. Vaginal cultures were positive more often than cervical cultures, and the overall pattern of the bacterial flora of the vagina and the cervix shows that pathogens were less frequently isolated than non-pathogens but pathogens were more frequent in vaginal (32.08%) than in cervical cultures (18.87%).

CONCLUSION

Since this is a small study, it is not justified to draw firm conclusions from the results reported. In order to determine the pattern of vaginal and cervical flora among pregnant women and their significance, a more comprehensive study in a larger number of samples and in all three trim-esters of pregnancy would be necessary.

REFERENCES

1. Slotnick, I.J., Hidldebrandt, R.J., and Prystowsky, H. Microbiology of the female genital tract IV. Cervical and vaginal flora during pregnancy. *Obstet. Gynecol.*, 1963; 21:312.
2. Joklik, W.K., Willett, H.P. and Amos, D.B. *Zinsser's microbiology*: 18th edition. Narwalk Appleton-Century Crofts. 1984; p.439.
3. White, C.A., and Knootz, F.P. Bacterial flora of the cervix during pregnancy. *Obstet. Gynecol.*, 1968; 32:402.
4. Hawkinson, J.A. and Schulman, H. Prematurity associated with cervicitis and vaginitis during pregnancy. *Am. J. Obstet. Gynecol.*, 1966; 94:898.

5. Gibberd, G.F. Puerperal sepsis. J. Obstet. Gynecol. Br. Commonw., 1966; 73:1.
6. Rao, K.B., Ramamurthi, D.V. and Vimala, G. Intrapartum infections. A clinical and bacteriological study. Obstet. Gynecol., 1965; 26:833.
7. Blanc, W.A. Pathways of fetal and early neonatal infections. Viral placentalitis, bacterial and fungus chorioamnionitis. J. Paed., 1961; 59:473.
8. Eickoff, T.C., Klein, J.O., Daly, A.K., Ingall, D., and Finland, P.G. Neonatal sepsis and other infection due to group B Beta hemolytic streptococci. New. Engl. J. Med., 1964; 271:1221.
9. Hazzard, G., Porter, P.J. and Ingall, D. Pneumococcal laryngitis in the newborn. New. Engl. J. Med., 1964; 271:361.
10. Keital, H.G., Hananian, J., Ting, R., Prince, L.N. and Raiidali, E. Meningitis in the newborn infant. Pediatr., 1962; 61:39.
11. Bailey, W.R., and Scott, E.G. Diagnostic microbiology, Saint Louis, Mosby, 1966, p.105.
12. Jawetz, F., Melnick, J.L., and Adelberg, E.A. Review of medical microbiology. 17th ed. Norwalk, Appleton and Lange, 1987, p.217.