BACTERIOLOGICAL STUDY OF GENITAL TRACT INFECTION IN PUERPERIUM

Pages with reference to book, From 70 To 72

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Abstract

Of 185 vaginal and 13 wound swabs obtained from febrile females after delivery and abortions 140 (75.6%) vaginal and 10 (76.9%) wound swabs were positive for bacteria . Infection caused by a single bacterium was found in 100 (71.4%) and mixed infection in 40 (28.5%). E.coli was mainly isolated followed by Staph. aureus and Kiebsiella. Fosfomycin was the most effective antibiotic againstE. coil and Gentamycin against Staph. aureus (JPMA 39; 70, 1989).

INTRODUCTION

Genital tract infection particularly postoperative sepsis may arise from the endogenous flora ‘or by bacteria acquired during labor and delivery. Potentially pathogenic bacteria may be found in the vagina throughout pregnancy irrespective of socio-economic status. It is speculated that for obstetrical infection to develop other factors could be present in addition to endogenous pathogens.[1] This study was done to determine the infecting organisms among febrile females after delivery and abortions in the Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Karachi.

PATIENTS AND METHODS

One hundred and eighty-five high vaginal swabs and 13 swabs from abdominal wounds were collected from mothers developing puerperal pyrexia with clinical diagnosis of genital tract infection. These subjects were delivered abdominally or vaginally or delivered at home or in some other hospital and admitted with fever. Patients with abortions and fever were also included. Most of the patients had been given Ampicillin approximately 12—24 hours before the collection of specimens. Vaginal and wound swabs were collected under aseptic conditions, placed in broth and immediately transported to the laboratory for examination. Direct microscopic examination was done for trichomonas vaginalis. Bacteriological examination was done by inoculating the swabs on MacConkey agar, blood agar, and Sabouraud’s agar. The isolates obtained were identified on the basis of colony morphology, gram staining and biochemical reactions. Antibiotic sensitivity tests for pathogenic organisms were done by disc diffusion method.

RESULT

Seventy-six per cent vaginal swabs and 77% wound swabs were positive for growth. Infection was caused by a single bacterium in 100 (714%) while mixed infection (28.5%) was less frequent. Of 187 isolates E. coil were isolated in 88 (47%), Staph. aureus in 24 (12.8%) and Klebsiella in 21(11.2%) (Table I).

TABLE 1. Types of Bacteria Isolated from Vaginal Swabs.

Pathogens isolated	Number	Percent
E. coli	88	47.05
Staph. aureus	24	12.83
Klebsiella	21	11.22
Candida albicans	14	7.48
Neisseria (Non-pathogenic)	11	5.88
Proteus	11	5.88
Strept. viridans	8	4.27
Strept. faecalis	4	2.13
Staph. albus	3	1.60
Diphtheroids	2	1.06
Strept. pyogenes	1	0.53

Fosfomycin was the most effective antibiotic against E. coil and Kanamycin and Gentamycin against Staph. aureus (Table II).

TABLE II. Antibiotic Sensitivity Pattern (Percentage Sensitive).

Pathogens	FF	K	G M	Pb	C	Tet	AM	P	S	E	Sep	Vel	AML	ATM
E. coli	82.3	77	69	54.3	46.9	12.2	10.3	–	–	–	–	–	–	–
Klebsiella	71.4	85.7	80	50.0	52.3	46.1	4.7	–	–	–	–	–	–	–
Proteus	50.0	40	54.5	22.2	36.3	20.0	27.2	–	–	–	–	–	–	–
Staph. aureus	60.0	60	90	40	47.6	50.0	40.0	4.7	25.0	38	45.4	71.4	33.3	28.5

FF – Fosfomycin
K – Kanamycin
GM– Gentamycin
Pb – Polymyxin
C – Chloramphenicol
Tet – Tetracycline
AM – Ampicillin
P – Pencillin
S – Streptomycin
Sep – Septran
Vel – Velosef
AML – Amoxycillin
ATM – Azactam
E – Erythromycin

None of vaginal swabs were positive for Trichomonas vaginalis.

DISCUSSION

In genital tract infection both aerobic and anaerobic bacteria are frequently involved but the latter could not be isolated due to some limitations. E. colt a gram negative enteric organism has frequently been implicated in obstetrical infections[2,3]. This was the most common pathogen in this study as well. Pathogenicity of Candida albicans is well documented. [4] It might be present in the vagina as commensal but its presence does not necessarily indicate morbidity. [5] In this study C. albicans was isolated from 7% and in others C. albicans was rarely isolated from healthy lower genital tract[6]. Among our cases Ampicillin was given routinely to patients admitted to the hospital but majority (90%) of E. colt infection were resistant to Ampicillin while only 18% were resistant to Fosfomycin. Therefore, it is recommended that vaginal swab cultures should be done routinely and its sensitivity pattern determined so that appropriate antibiotics may be used in order to reduce genital tract infections.

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