

MICROBIAL ETIOLOGY OF LEUCORRHOEA

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SUMMARY

The microbial etiology of 113 cases of leucorrhoea was studied. Bacteria were isolated from 84% of cases, *Candida* from 23% and *Trichomonas vaginalis* from 5% of cases. The important etiological agents were *Staphylococcus aureus*, *Streptococcus pyogenes*, Group D Streptococci, *E.Coli*, *Klebsiella*, *Candida albicans* and *C.krucei*. Anaerobic bacteria accounted for only 2.08% of pathogens. Majority of infections were polymicrobial in nature.

INTRODUCTION

Leucorrhoea is one of the major problems encountered in gynaecological practice. The most common cause of leucorrhoea is a vaginal infection due to bacteria, virus, fungi and parasites. Other causes include foreign bodies, cervicitis and atrophic vaginitis. (Benson, 1982).

The main aim of the investigation was to study the microbial etiology of leucorrhoea.

MATERIALS AND METHODS

113 patients presenting with profuse vaginal discharge, at the Gynaecological out patient's Department of Kasturba Gandhi Hospital, Madras, were included in the study.

Specimens were obtained from the vagina using sterile cotton swabs. The swabs were

transported to the laboratory in Cary and Blair medium and Amies Transport Medium.

MICROSCOPIC EXAMINATION

A wet mount in saline was examined for *Trichomonas vaginalis* and yeasts. Gram stained smear of the discharge was examined microscopically for possible pathogens.

CULTURE

Culture was done on Blood Agar, MacConkey Agar and Chocolate Agar for aerobic pathogens and Neomycin blood agar incubated in the anaerobic jar using Gas pak system for anaerobic bacteria (Sutter et al, 1980).

The swabs were also streaked on to Sabouraud Glucose Agar with chloramphenicol in a concentration of 50 mg/l, for isolation of

fungi. These plates were aerobically incubated at 37C for 48 hours.

RESULTS

A total of 113 samples were collected and analysed microbiologically. Of these, 96 (84%) were positive for infective agents.

Of the 113 patients, 96 (84%) were positive for bacteria, 27 (23%) for fungi (*Candida*) and 5 (4%) for parasites (*Trichomonas vaginalis*) (Table-I).

Table II shows the incidence of bacteria in leucorrhoea. Most common aerobic pathogen isolated was *Staphylococcus aureus* (38%), followed by *Escherichia coli* (19%) and Non-hemolytic streptococci (19%). Other aerobes include *Klebsiella pneumoniae* (11%), Group D Streptococci (6%), *Streptococci viridans* (5%), *Streptococci pyogenes* (4%) and *Proteus morgani* (1%). In most cases, more than 2 organisms were isolated from a single specimen signifying the polymicrobial nature of these infections.

Among the anaerobes isolated, one case was positive for *Veillonella* and one for *Peptostreptococcus*.

The predominant fungi isolated from the patients were various species of *Candida*. The *Candida* isolated were speciated using sugar test

(Emmons, et al 1977) and dye inhibition tests (Sobczak, 1985). The most frequently isolated species was *C. albicans* (40%) followed by *C. kruezi* (33%) and *C. tropicalis* (14%). Other species include *C. stellatoidea* (7%) and *C. guillemondi* (3%) (Table-3).

DISCUSSION

Vulvovaginal disorders are common in gynaecological practice. Leucorrhoea is most often associated with a vaginal infection which is usually said to be caused by *Gardnerella vaginalis*, *Candida albicans* or *Trichomonas vaginalis*. It is probable that other agents are also involved and there are not many reports on the etiology of leucorrhoea in India. Significant bacterial pathogens isolated in this study were *Staph. aureus*, *Strep. pyogenes*, Non-hemolytic Streptococci, *E. coli* and *Kelbsiella*.

Anaerobic infections were rare and seen only in severe cases. Among the species of *Candida* isolated, we found a particularly high incidence of *C. kruezi* which has not been previously reported.

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TABLE I

ETIOLOGICAL AGENTS OF LEUCORRHOEA

Total Number of Patients	Bacteria		Number Positive for			
	No	%	Fungi		Parasites	
	No	%	No	%	No	%
113	96	84	27	23	5	4

*CANDIDA,

** TRICHOMONAS VAGINALIS.

TABLE II

INCIDENCE OF BACTERIA IN LEUCORRHOEA

Number positive for Bacteria	Acrobes		%	Anaerobes		
	Organism	No		Organism	No	%
96	Staphylococcus albus	73	76.1	Veillonella	1	1.1
	Staphylococcus aureus	38	39.6	Pepto- streptococcus	1	1.1
	Escherichia coli	19	19.8			
	Nonhemolytic Streptococci	19	19.8			
	Diphtheroids	17	17.7			
	Klebsiella Pneumoniae	11	11.4			
	Nonpathogenic Neisseria	7	7.3			
	Group D Streptococci	6	6.2			
	Streptococci viridans	5	5.2			
	Streptococci pyogenes	4	4.2			
	Proteus morgani	1	1.1			

TABLE III

INCIDENCE OF CANDIDA IN LEUCORRHOEA

Number Positive for Candida	Candida Species	Number %	
		Number	%
27	C. albicans	11	40
	C. krucei	9	33
	C. tropicalis	4	14
	C. stellatoidea	2	7
	C. guillemondi	1	3

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