"STD" A changing scenario of microbial flora

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Summary . The present study is based on 350 cases of STD from gyanecology Department and STD Clinic of S N. Medical College, Agra. The most consistent organism was Candida sps (52.0%) followed by T. Vaginalis (28.4%), Gonococci (19.4%), H. ducreyi (25.7%), Chlamydia trachomatis (14.8%), Herpes simplex (2.9%), Human papilloma virus (3.1%), Syphilis (3.5%), Mycoplasma sps (4.0%) and Pediculosis (4.0%). Primary syphilis was significantly absent but secondary / tertiary stages were recorded (2% and 1.5% respectively). 2 or more than 2 agents were seen in (40.0%) cases. The same organisms were isolated in 21% cases in male counterpart. The present paper emphasizes the understanding of all the pathogenic microbial agents, so that relapse may be checked.

Introduction

The etiological agent of STD has been considereed as polymicrobial agents and also includes newer organism (Chlamydia, Mycoplasma), virus (Herpes, Human papilloma virus, Genital wart virus, AIDS virus), fungus (Candida), parasite (Trichomonas, Ectoparasites pediuculosis) (Khan et al, 1991; Ghosh et al, 1994; Williams et al, 1991). This has changed the spectrum pressing previously defined organisms Treponema pallidum, gonococci, Lymphogranuloma inguinale, etc. much lower down.

These desired etiological agents lead to various female reproductive tract infections, their complications, and also spread of the lesions to their male counter part.

This changing scenario stressed the need for the study (a) Pattern of etiological agent in female, (b) comparing them with previously reported pattern from India and particularly from Agra region. This also emphasises adequate proper chemotherapy to both partneres so as to reduce the morbidity of the disease process.

Material and method

The present study was conducted in the Department of Obstetrics and Gynaecology and STD clinic and the specimens were processed in the Department of Microbiology, S.N. Medical College and Hospital, Agra, during January 1994 to May 1996. The cases were selected between the age group of 16-30 year. 350 cases of female patients with clinical symptoms of STD (foul smelling and curdy discharge, burning micturation and pelvic pain) constituted the study group while 100 cases of normal healthy female devoid of any symptoms were considered for the control group. Male patients were also included in the study. Cervical, vaginal and urethral specimens were collected and inoculated on various basic and special media for both bacteria and fungus. Serological tests were conducted on all the serum samples. All the samples were finally processed according to the criteria laid down by Reference Manual for Laboratory Workers, Diagnosis of STD, NACO, 1994.

Results

The observation of all 350 STD cases and 100 control cases were recorded in the following table. The majority of the patients were in age group of 21-25 years (59.4%) in study group and 53 (53%) in control group, while minimum number of cases in the age group 16-20 years (16.9%) and (20%) respectively (Table 1).

Table 1
Agewise Distribution of Cases in study and control Group

Age(in years)	Study Group(n=350)		Control Group (n= 100)	
	No.	%	No.	%
16-20	59	16.9	20	20.0
21-25	209	59.7	53	53.0
26-30	82	23.4	27	27.0

The following was the frequency of distribution of clinical symptoms in the study group. Burning micturation (86.3%), followed by curdy discharge with

Table 2

Pattern of STD agents in study and Control Group

Organisms	Study Group(n=350)		Control Group(n=100)	
	No.	%	No.	%
Candida sps	182	52.0	6	6.0
T. vaginalis	99	28.4	2	2.0
N. gonorrhae	68	19.4	0	- -
H. ducreyi	90	25.7	4	4.0
C. trachomatis	52	14.8	2	2.0
Herpes Simplex	10	2.9	0	-
Human papilloma	11	3.1	0	-
T.Pallidum (Syphilis)	12	3.5	0	-
Ureaplasma Urealyticum	14	4.0	2	2.0
Pediculosis	14	4.0	0	-

Table 3

Pattern of Etiological Agents in Male Counterparts

Organisms	No.	%
Candida sps	28	8.0
T. Vaginalis	16	4.6
N. gonorrhae	9	2.4
H. ducreyi	4	1.1
C. trachomatis	4	1.1
Herpes Simplex	2	0.6
Human papilloma	2	0.6
T.pallidum (Syphilis)	5	1.4
Ureaplasma Urealyticum	2	0.6
Pediculosis	2	0.6

Table 4

Comparative Study of STD Organisms (Previous and Present)

Oganisms	Our Study 1994	Ghosh et al. 1995	Mohanty et al 1991	Khan et al 1994	Jaiswal et al 1993	Pal et al
	%	%	%	%	%	%
Candida sps	52.0	16.9	14.7	23.0	-	19.2
T. vaginalis	28.4	32.3	6.4	10.0	-	9.2
N. gonorrhoea	19.4	12.3	3.7	5.0	17.08	-
H. ducreyi	25.7	-	5.5	91.0	35.0	16.0
C. trachomatis	14.8	-	-	-	10.0	1.2
Herpes Simplex	2.9	-	25.7	-	5.0	-
H. papilloma	3.1	-	7.3	-	-	-
T. pallidum (Syphilis)	3.5	-	15.6	-	-	3.2
Ureaplasma Urealyticum	4.0	7.6	-	-	-	
Pediculosis	4.0	-	-	-	-	-

foul smelling odour (56.4%), odourless watery discharge (40%), lower abdominal pain (30.6%).

In table 2, it is evident that in the study group, highest percentage was of Candida sps and T. vaginalis (52.0%) and (28.4%) followed by H. ducereyi (25.7%), C. trachomatis (14.8%), N. gonorrhoae (19.4%). In the control group Candida sps was (6.0%) and H. ducreii (4.0%), T. vaginalis (2.0%) respectively.

The microbial flora pattern in male counterpart is given in table 3. Highest percentage was of Candida sps (8.0%) followed by Trichomonas vaginalis (4.6%), and N. gonorrhoeae (2.6%).

Discussion

The STDs are a group of diseases caused by polymicrobial agents, a complex group and are associated with considerable morbidity and mortality. Recently more etiological agents have been included in the ecosystem of STDs.

In the present study, majority of the patients were in the age group of 21-25 years with a mean age of 23 years which is almost consistent with the study of Ganguly et al. (1983) and Mohanty et al. (1995) (25 years and 25.5 years respectively).

In our study, Candida sps and T. vaginalis were the most significant etiological agents causing STD as their incidence was 52.0% and 28.4% in comparison to the reports of Mohanty et al. (1995) and Khan et al. (1991) who have given a lower percentage (14.7%, 6.4%) and (23%, 10.0%) respectively.

From Table 4, it is very evident that Treponema pallidum have been very well pushed down (33.5%) while Gonococci still enjoys fairly high isolation rate (19.4%). The primary syphilis was strikingly not recorded.

Two or more than two organisms were recorded in 40% and the most consistent combination was Candida sps along with Chlamydia, Mycoplasma, Trichomonas. Male counterpart revealed same organism in 21 percent cases.

The Candida cases alone or in combination with other pathogenic microorganisms were also having anaemia and local hypoxia along with decreased vitality of local tissue cells further helps in colonization of Candida and alongwith other microorganisms to colonize.

Therefore it is very essential to isolate and identify the exact microbe / microbes and to eradicate, all the organisms so as to prevent incomplete eradication or reocurrence and reduce the morbidity and complication of the identifying disease process.

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