Genital tract infection of women in Southern Orissa with special reference to pelvic inflammatory disease

Sir,

Genital tract infection (GTI) includes vulvitis, vaginitis, and cervicitis, which subsequently ascends to the upper genital tract causing pelvic inflammatory disease (PID).[1] Important causative organisms include *Chlamydia trachomatis* and *Neisseria gonorrhoeae, Mycoplasma hominis, Ureaplasma urealyticum, Gardnerella vaginalis*, and *Escherichia coli.*[2] Ninety sexually active females (20-45 yr age group) with complaints of abnormal vaginal discharge, lower abdominal pain, dyspareunia, irregular vaginal bleeding were taken as cases and 30 females without such complaints were included as controls. Five endocervical swabs were collected from each patient and processed for direct microscopic examination and culture. Sample was examined for curdy discharge, pH, and amine test with 10% KOH. Swab in the tube containing normal saline was checked for motile trophozoites of *Trichomonas vaginalis* under the low power microscope. Gram staining was done and examined for presence of clue cell. Culture of each specimen was done for aerobic bacterial isolation, *Mycoplasma* spp., and budding yeast cell. Isolated *Mycoplasma* strains on pleuropneumonia-like organism (PPLO) agar were identified on the basis of typical colonial morphology and further confirmation was done.
by Diene’s stain and Giemsa stain. Serum from 60 cases (clinically diagnosed as PID) was tested for C. trachomatis IgM enzyme-linked immunosorbent assay (ELISA) (NovaTec).

Maximum number of cases (48/90) of GTI was between 20-30 yrs age group [Table 1]. Majority of cases were married (housewives) followed by laborers. Intrauterine devices (IUD) were the predominant contraceptive method practised by the study groups. Vaginal discharge was the single most common presentation in these patients (25%). However, most of the patients had pruritus, dysuria, low backache, and dyspareunia along with vaginal discharge. Trophozoites of T. vaginalis were identified in wet mount preparation in three (3.3%) cases out of total 90. Mycoplasma spp. found to be the most common pathogen (17.8%) on culture isolation, followed by Staphylococcus aureus (16.6%) in the cases [Table 2]. In control group, S. epidermidis was the most commonly isolated bacteria. Culture isolation of different Mycoplasma spp. in cases revealed U. urealyticum was the commonest isolate in 12 (13.2%), followed by M. hominis four (4.4%). However, U. urealyticum was isolated in two (6.6%) from the controls. Sixteen (26.6%) out of 60 PID cases were seropositive for C. trachomatis by IgM ELISA test. No seropositive result was obtained from the 20 controls. So, out of the total 60 PID cases, Mycoplasma spp. was found in 18.3% of cases and C. trachomatis was found in 26.6%, and both were found in 6.6%. Total 10 (11.1%) cases were found culture positive in Sabouraud dextrose agar (SDA) agar out of which Candida albicans is the predominant followed by C. tropicalis.

Microbial flora of the female genital tract presents as an extensive and diversified spectrum of pathogenic and non-pathogenic organisms. While gonorrhea and Chlamydia have long been associated with acute PID, bacterial vaginosis caused by different pathogens has emerged as another risk factor for upper genital tract infection.4,5 In this study, the association of selected microbes in the causation of lower GTI (vaginitis/cervicitis) and upper genital tract infection (PID) has been studied. Use of (IUD) traditionally believed to confer an elevated risk of PID due to bacterial contamination at the time of insertion.6 In the present study, more than 49% of total patients used intrauterine devices as contraceptive measures.

Table 2: Culture isolation of different microbes

| Microorganism                  | Cases (n=90) | Controls (n=30) |
|-------------------------------|-------------|----------------|
| **S. aureus**                 | 15 (16.6%)  | 1 (3.3%)       |
| Coagulase-negative staphylococcus | 10 (11.1%) | 5 (16.55)      |
| Gr. B lackemolytic streptococci | 8 (8.8%)   | 00             |
| Enterococcus spp.             | 4 (4.4%)    | 00             |
| E. coli                      | 4 (4.4%)    | 00             |
| Klebsiella spp.               | 3 (3.3%)    | 00             |
| M. hominis                   | 4 (4.4%)    | 00             |
| U. urealyticum               | 12 (13.2%)  | 2 (6.6%)       |
| C. albicans                  | 6 (6.6%)    | 00             |
| C. tropicalis                | 4 (4.4%)    | 00             |
| Others                       | 20          | 22             |

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