

REVIEW ARTICLE

BACTERIAL VAGINOSIS, RECURRENT URINARY TRACT INFECTION AND ITS COMPLICATIONS

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DEFINITIONS: The term Bacterial Vaginosis is used to describe the condition of a patient complaining of fishy odor, sticky mucopurulent discharge from vagina adherent to vulva and secretions staining the fomites. The patient is frustrated and not getting a cure for so many a months from the medical practitioners. Finally women who attend to sexually transmitted disease clinic to get a complete cure.

The patients prone to get Bacterial vaginosis: (1) Couple using Condom lubricated with Nanoxynol-9 a spermicidal, bactericidal destroys the Doderline bacilli ($H_2 O_2$ producing lactobacilli) a commensal in the vagina which maintain the acid pH in the vagina to prevent bacterial vaginosis an ascending retrograde infection from perineum and anus. (2) perverted sex activities like cunnilingus and both homo and hetero sexual active couple acquire to get bacterial vaginosis. (3) Saline douching of the vagina alters the pH as alkaline and facilitates bacterial vaginosis. (4) Tamponing or napkins kept for long duration without knowing the consequences of menstrual bleeding as a culture media for bacterial vaginosis to occur as a retrograde infection.

KEY POINT: (1) The condom should not be lubricated with Nanoxynol-9 which induces bacterial vaginosis, instead glycerin can be used. (2) Saline douching should not be prescribed. (3) Educate the sexual couple not to do perverted sex behaviors. (4) Write on the napkin kits to change every 4hrs or frequently as required.

Approach to the problem: An organized, approach and an open mind are central to establish the diagnosis in the patient. With little or no inflammation of the vaginal epithelium per se, the syndrome apparently represents a disturbance of the vaginal micro flora, rather than the a true tissue or epithelial infection. But Bacterial vaginosis the major cause of retrograde infection causing pelvic inflammatory disease and membrane infection to produce spotting in pregnancy and abortion. Recurrent Urinary tract infection due to secondary bacterial vaginosis with E. Coli develops in failure of treatment in primary bacterial vaginosis with Gynoflor ($H_2 O_2$ producing lactobacilli +0.03 mg of estrogen) vaginal tablets.

Diagnosis: Clinically fishy odor mucopurulent sticky secretions that adherent to the vaginal introitus. Gram's stain of vaginal fluid shows a decreased or absence of $H_2 O_2$ producing lactobacilli (Doderlein Bacilli) a saprophyte in the vagina to maintain the acid pH, which prevents the bacterial vaginosis.

Couple using Condom lubricated with Nanoxynol-9 a spermicidal, bactericidal kills the $H_2 O_2$ producing lactobacilli and facilitates bacterial vaginosis. The saprophytes in a system of the body when enters different system it will become pathogenic. In the perverted sex activities like

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cunnilingus and homo and hetero sexual active couple the mouth saprophytes streptococcus viridans and mutans in dental plaques which causes caries, Proteus, coliforms, micrococci, fusiform bacilli, mycoplasma, leptothrix bacteroids, Treponema microdenium and macrodentium, and fungus like candida and geotricum produces bacterial vaginosis associated with inguinal lymph adenopathy. The male partner develops recurrent urinary tract infection with sodomy. The person do cunnilingus acquires all the micro organisms from the vagina to produce acute pharyngitis, laryngitis associated with lymph adenopathy in the cervical region. Saline douching of the vagina. Tamponing or napkins kept for long duration without knowing the consequences produces bacterial vaginosis. The primary bacterial vaginosis is manifested with predominance of Gram -variable coccobacilli consists of Gardnerella vaginalis, Peptostreptococcus, bacteroids, Mobiluncus, mycoplasma, diphtheroids, candida, trichomonas vaginalis and helminthic infestation. The secondary bacterial vaginosis caused by E. Coli.

Initial investigations:

1. Whiff test: Adding 10% KOH to vaginal secretions produces fishy odor.
2. Clue cells: A swab of vaginal fluid obtained from the vagina not from cervix taken in normal saline on slide and put a cover slip and see under high power objective in a microscope to see vaginal epithelium clinched with bacteria.
3. In 10% KOH for candida to demonstrate the pseudohyphae and spores of candida. (20% candida can be a commensal with H₂ O₂ producing lactobacilli)
4. Gram's stain: for normal vaginal fluid for absence of H₂ O₂ producing lactobacilli, and presence of coco bacilli.
5. In a slide with a drop of saline vaginal fluid added on to it and put cover slip and see under high power object of microscope to see trichomonas vaginalis.
6. Fem exam: Determination of amines in vaginal fluid in a card test for trimethylamine with elevated pH. (A recent test)
7. Proline aminopeptidase test: With an enzyme substrate in a micro titer plate vaginal fluid incubated for 4 hrs at 35.5 degree centigrade, rapid garnet green added, a red or pink color indicates a positive test.
8. Urine for culture and sensitivity.
9. Ultra sonography to rule out retroverted uterus and adhesions due to chronic PID.

Treatment:

Clindamycin 500mg bid for 7 days plus

Metronidazole 400 mg bid for 7 days.

Candid V6 vaginal tabs (clotrimazole vaginal tab).

Gynoflor vaginal tablet (H₂ O₂ producing lactobacilli+0.03 mg estrogen) to replace the normal flora in the vagina.

(Since Gynoflor vaginal tablets not available in INDIA, vizylac tablets (Lactobacilli tablet) can be used vaginally along with estrogen cream.)

COMPLICATIONS OF BACTERIAL VAGINOSIS: Secondary bacterial vaginosis with E.Coli occur when Gynoflor vaginal tablet is not prescribed. This may lead on to recurrent urinary tract infection

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with E.Coli. Renal stone formation due to altered pH in the urine facilitates aggregation of crystals to form renal stones. The renal stones got blocked at anatomical strictures in the ureter at pelviureteral junction, vesicoureteric junction or in mid way in between in the ureter to develop hydronephrosis. Retrograde infection to form pyelonephritis.

E. Coli already developed 1650 strains, because in unfavorable conditions it become encysted and in the hibernation phase on mutation it develops into a resistant strain. Nitrofurantoin and nalidixic acid drugs 100% active ingredient eliminate in the urine in active form is the drug of choice of UTI & they are not metabolized in the liver. When all the antibiotics become resistant, the only therapy is auto vaccine therapy.

Auto vaccine therapy: (Gives a complete cure to resistant cases of E.Coli UTI)

The urine collected from the patient is cultured, sub cultured several times to attenuate the E.Coli and prepare vaccine at strength of 20, 40, 100, 200, and 400 million attenuated E.Coli in 1 ml ampoules of 2 sets.

While giving the intra muscular injections of auto vaccine start with 20 million in one ml to 400 million in one ml strength at 5 days interval and the second course from 400 million in 1 ml to 20 million in 1ml at 5 days interval.

CONCLUSION: Instruction to be given to the condom companies not to lubricate with nanoxynol-9, instead glycerin can be used. Saline vaginal douching prescription should be condemned in the medical field. Educating the public to prevent perverted sex activities and its hazards.

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