



VAGINAL DISCHARGES

BY: DR KD DELE | DEPARTMENT OF FAMILY MEDICINE | DORA NGINZA HOSPITAL

INTRODUCTION



Vaginal discharge is a common presenting complaint among women.



It has been estimated that approximately a third of female patient will complain of abnormal vaginal discharge



It can occur at any age – from neonatal to post menopausal period.



It is also a common presentation in pregnancy.

INTRODUCTION



Physiologically women have vaginal discharge which is white mucoid, odour less and non-irritant, thin or thick based on menstrual cycle.



There is individual variation in the amount of normal vaginal discharges.



Abnormal vaginal discharge which is STI related is abnormal in colour, odour and amount.



In another word abnormal vaginal discharge is there when a women notices a change in colour, odour and amount accompanied by pruritus.

INTRODUCTION

MEDICAL NEWS TODAY

Colors of vaginal discharge

and what they can mean

CLEAR

- healthy discharge
- pregnancy
- ovulation
- hormonal imbalances

GRAY

- bacterial vaginosis

PINK

- cervical bleeding
- vaginal irritation
- implantation bleeding

WHITE

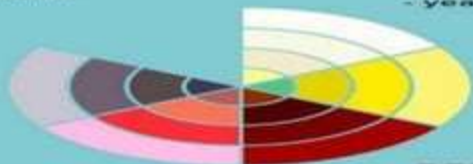
- healthy discharge
- yeast infection

YELLOW-GREEN

- sexually transmitted infection

RED

- menstruation
- cervical infection
- cervical polyp
- endometrial or cervical cancer



PHYSIOLOGY OF THE VAGINA

- The vagina is lined by non-keratinized stratified squamous epithelial influenced by oestrogen and progesterone.
- In children the pH of the vagina is 6-8 predominant flora is gram positive cocci and bacilli
- At puberty, the vagina oestrogenised and glycogen content increase.
- Normal vaginal pH in the adult is acidic, ranging from 3.5 to 4.5
- This is due to the Lactobacilli which convert glycogen to lactic acid
- Secondary fermentation of the endocervical mucus by the vaginal flora also contribute to the low pH
- Dynamic equilibrium between microflora and metabolic by products of the microflora, host oestrogen and vaginal pH

Antibiotics

Hormones or lack of hormones

Contraceptive preparations

Douches

Vaginal Medication

Sexual trauma

Stress

Diabetes Mellitus

Decrease host immunity – HIV + STEROIDS

FACTORS AFFECTING THE VAGINAL ECOSYSTEM

VAGINAL DESQUAMATED TISSUE

- Reproductive age – superficial cells (oestrogen)
- Luteal phase – Intermediate cells (progesterone)
- Postmenopausal women- parabasal cells – due to absence of hormone)

NORMAL VAGINAL FLORA

- Lactobacilli
- Found in 96% of women.
- Concentrations of $10^5 - 10^8$ per ml.
- It is protective by interfering with adherence to epithelial cells.
- There are other facultative organisms and anaerobes which are also normal flora.

NORMAL VAGINAL FLORA

These include:

- Anaerobes
- Diphtheroids
- Coagulase negative staphylococci
- Alpha haemolytic streptococcus

OVERGROWTH OF NORMAL VAGINAL FLORA

- Candida Albicans
- Staphylococcus Aureus
- Group B Strep (Strep. Agalactiae)

AETIOLOGY OF VAGINAL DISCHARGE

- Vagina discharges can be classified as physiologic or pathological.
- It can also be classified based on age group and the stage of menstrual cycle.

PHYSIOLOGICAL

AGE DEPENDENT:

- Neonatal and Infant
- Pre-puberty
- Reproductive age group
- Post menopausal

EXCESSIVE SECRETION

- Pregnancy
- Sexual arousal

PATHOLOGICAL

- NON INFECTIVE CHEMICAL IRRITATION
 - Antiseptics, bath additives, deodorants, detergent spermicides, douches, perfumed soaps
- FOREIGN BODIES
 - IUCD, retained materials, retained tampons, post gynaecological procedures
- INFECTIVE CAUSES may be STIs and non STIs
 - Cervicitis – Gonococcal and Non-gonococcal eg chlamydia +ve and -ve
 - Vaginitis – Bacterial vaginosis, Vaginal candidiasis, Vaginal trichomoniasis



Spectrum of vaginal discharge in a tertiary care setting

R. Sivarani, T. Jaganakar, Divyadarshini Mohan, Theppa, Rashmi, Suman, Leemisha, Chandrasekhar, M. Malathi, S.C. Paria¹ and S. Hasbeebullah²

Abstract

Introduction:

Vaginal discharge is one of the common reasons for gynecological consultation. Many of the causes of vaginitis have a disturbed vaginal microbial ecosystem associated with them. Effective treatment of vaginal discharge requires that the etiologic diagnosis be established and identifying the cause offers a precious input to syndromic management and provides an additional strategy for human immunodeficiency virus prevention. The present study was thus carried out to determine the various causes of vaginal discharge in a tertiary care setting.

Materials and Methods:

A total of 400 women presenting with vaginal discharge of age between 20 and 30 years, irrespective of marital status were included in this study and women who had used antibiotics or vaginal medication in the previous 14 days and pregnant women were excluded.

Results:

Of the 400 women with vaginal discharge studied, a diagnosis was established in 303 women. Infectious causes of vaginal discharge were observed in 207 (51.75%) women. Among them, bacterial vaginosis was the most common cause seen in 103 (26.25%) women. The other infections observed were candidiasis alone (61, 15.22%), trichomoniasis alone (12, 3%), mixed infections (22, 5.3%) and mucopurulent cervicitis (7 of the 130 cases looked for, 5.4%). Among the non-infectious causes, 72 (18%) women had physiological vaginal discharge and 13 (3.3%) women had cervical *in situ* causes: carcinoma cervix.

Conclusion:

The pattern of infectious causes of vaginal discharge observed in our study was comparable with the other studies in India. Our study emphasizes the need for including Papinicolaou smear in the algorithm for evaluation of vaginal discharge, as it helps establish the etiology of vaginal discharge reliably and provides a valuable opportunity to screen for cervical malignancies.

KEY WORDS: Bacterial vaginosis, candidiasis, mucopurulent cervicitis, *Trichomonas vaginalis*, trichomoniasis, vaginal discharge

Epidemiology and clinico-investigative study of organisms causing vaginal discharge

Swetha Vigneshwar, Kamran Ghouse, Gita Devi,¹ and A. Suresh²

Department of Skin and STD, Vinayaka Mission's Kirupananda Variyar Medical College and Hospital, Salem, Tamil Nadu, India

¹Department of Obstetrics and Gynaecology, Vinayaka Mission's Kirupananda Variyar Medical College and Hospital, Salem, Tamil Nadu, India

²Department of Microbiology, Vinayaka Mission's Kirupananda Variyar Medical College and Hospital, Salem, Tamil Nadu, India

Address for correspondence: Dr. Kamran Ghouse, Department of Skin and STD, Vinayaka Mission's Kirupananda Variyar Medical College and Hospital, 83, Tretuncharai Nagar, Salem - 630 005, Tamil Nadu, India. E-mail: kgouse@vsnl.com

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Abstract

Background:

Abnormal vaginal discharge is a common clinical problem in reproductive age group. It is the second most common problem after abnormal uterine bleeding. It is a neglected health problem, most commonly caused due to vulvovaginal candidiasis, trichomoniasis, and bacterial vaginosis (BV).

Objectives:

The present study was conducted to determine the prevalence of common organisms causing vaginal discharge and also to know the variety of clinical presentation.

Materials and Methods:

A cross-sectional descriptive study was conducted in the Skin and STD Outpatient Department of Vinayaka Mission Kirupananda Variyar Medical College Hospital, Salem, who presented with abnormal vaginal discharge between September 2012 and September 2014. A total of 100 women in the reproductive age group who had symptoms of vaginitis were examined. Data were coded and analyzed.

Results:

Out of the 100 patients examined, 77 (77%) cases were organism positive. Among the positive cases, BV (27%) was the most common microbiological cause of abnormal vaginal discharge, followed by trichomoniasis (23%), vaginal candidiasis (22%), combined infection (Candida and BV) (3%), and non-specific cases (23%).

Conclusion:

Out of 100 cases, few cases showed discordance between clinical and laboratory diagnosis. This discordance can be due to pitfalls in identifying the causative agent clinically or observing of the findings due to improper treatment received for other ailments. Thus, clinico-investigative correlation is more important than other clinical findings alone.

PAEDIATRICS + PERIPUBERTAL: DIFFERENTIAL DIAGNOSES

- Physiological leukorrhoea – high oestrogen
- Eczema
- Psoriasis
- Pinworm- rectum itchy
- Foreign body

PAEDIATRICS + PERIPUBERTAL: INVESTIGATION

- Swab for culture
- PR Examination
- EUA
- X-RAY pelvic
- Exclude sexual abuse

PAEDIATRICS + PERIPUBERTAL: MANAGEMENT

- Hygiene
- Antibiotics
- Steroids
- Others as indicated e.g. social worker

POST MENOPAUSAL

- For abnormal vaginal discharge in postmenopausal women:
- Most common cause is atrophic vulvo-vaginitis
- Exclude Malignancy.

REPRODUCTIVE AGE: PHYSIOLOGICAL

- Increased in pregnancy and mid cycle, pregnancy, sexual arousal.
- It may also consist of fluid from other part of the genital tract:
 - cervical mucous,
 - endometrial and oviduct {FT} fluid,
 - exudates from Bartholin's and Skene's glands,
 - exudate from vaginal epithelium.

ETIOLOGY OF VAGINAL DISCHARGE SYNDROME: PATHOLOGIC

- STIs
 - *Neisseria gonorrhoea*
 - *Chlamydia trachomatis*
 - *Trichomonas vaginalis*
 - Herpes Simplex
- NON STIs
 - *Candida albicans*
 - Bacterial vaginosis(non specific vaginitis):
 - *Gardnerella vaginalis* (Polymicrobial) *Prevotella*, *Mycoplasma hominis*, *Mobiluncus*

OTHER AETIOLOGIES

- IUCD, retained materials, retained tampons, neglected pessary, vaginal diaphragm
- Conditions such as vesicovaginal fistula and rectovaginal fistula
- Post cervical cauterization and other gynaecological procedures
- Premature rupture of membrane may also be misdescribed as vaginal discharge

CLINICAL MANIFESTATIONS

- The classical manifestation of vaginal discharge is discharge from the vagina.
- The discharge can be
 - Thin, homogenous whitish discharge with fishy odour
 - Thick, profuse, malodorous, yellow-green, frothy itchy
 - Purulent exudate from the cervical os
 - White , thick and curd like discharge coating the walls of the vagina

CLINICAL MANIFESTATIONS

- The other manifestation of vaginal discharge include:
 - vulvo-vaginal pruritus
 - irritation of vulva
 - dyspareunia
 - dysuria
 - frequency of urination.

CLINICAL MANIFESTATIONS

- Physical examination may reveal
 - dry congestion of the vulva with discharge.
- There can be signs of cervicitis during speculum examination which are
 - redness and
 - contact bleeding from the cervix,
 - spotting and
 - endo cervical discharge.

COMPLICATIONS

Untreated vaginal discharge can cause reproductive, sexual and other health complications, such as

- Pelvic Inflammatory Disease (PID)
- Peritonitis and intra-abdominal abscess
- Adhesions and intestinal obstruction
- Ectopic pregnancy
- Infertility
- Chronic pelvic pain
- Premature Rupture of Membrane (PROM) in case of pregnant women
- Chorioamnionitis
- Post-partum endometritis
- Pre-term labour in case of pregnant women
- Low birth weight

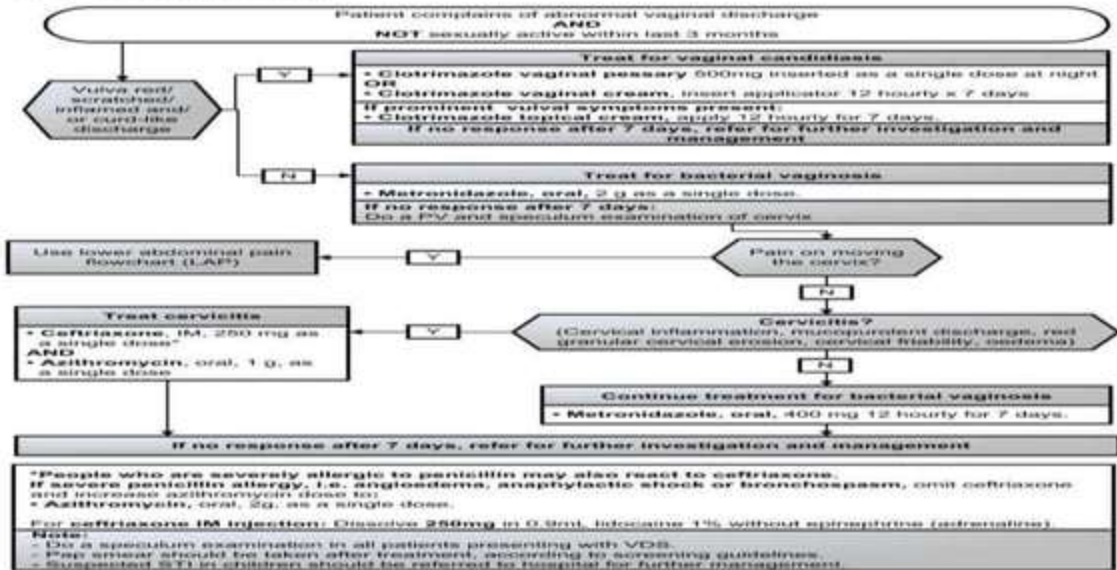
TREATMENT OF VAGINAL DISCHARGE SYNDROME

- Vaginal discharge syndrome can cause many devastating complications if left untreated.
- Hence any woman with vaginal discharge syndrome must be treated promptly.
- The recommended treatment of vaginal discharge is as follows:

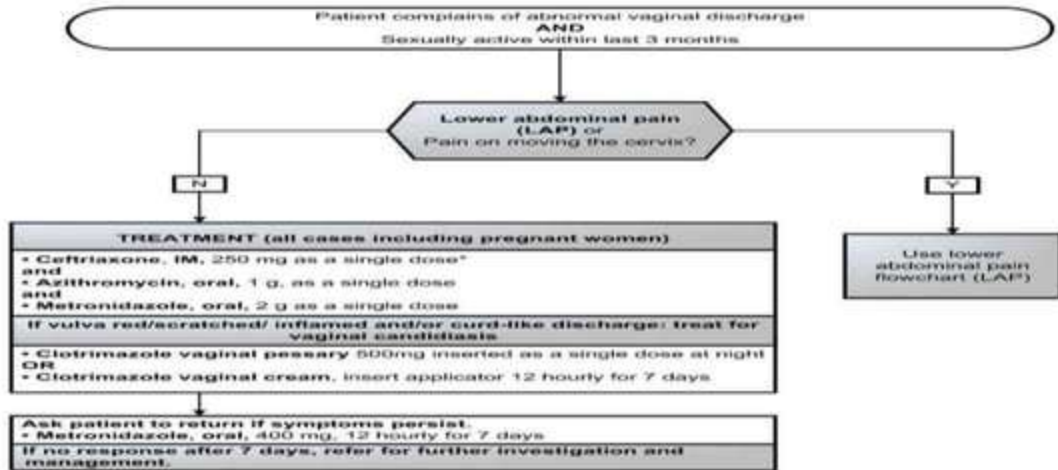
TREATMENT OF VAGINAL DISCHARGE SYNDROME

- The preferred regimen is
 - Ceftriaxone 250mg IM stat plus Azithromycin 2g po stat plus Metronidazole 2g po stat
- If discharge is white or curd-like
 - add Clotrimazole vaginal pessary 200 mg at bed time for 3 days

SEXUALLY NON-ACTIVE WOMEN



SEXUALLY ACTIVE WOMEN



*People who are severely allergic to penicillin may also react to ceftriaxone. If severe penicillin allergy, i.e. angioedema, anaphylactic shock or bronchospasm, omit ceftriaxone and increase azithromycin dose to:
- Azithromycin, oral, 2 g, as a single dose.

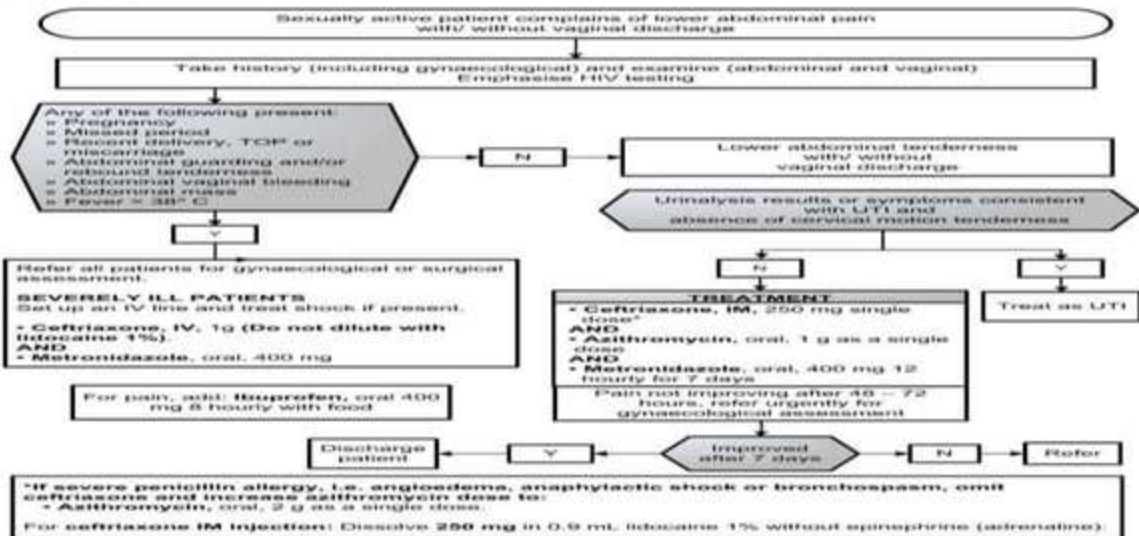
For ceftriaxone IM injection: Dissolve 250 mg in 0.5 mL lidocaine 1% without epinephrine (adrenaline).

Note:

- Do a speculum examination in all patients presenting with VDS.
- Pap smear should be taken after treatment, according to screening guidelines.
- Suspected STI in children should be referred to hospital for further management.

LOWER ABDOMINAL PAIN (LAP)

N73.9



COMPLICATIONS OF LOWER ABDOMINAL PAIN SYNDROME

- If patients with LAP syndrome are not treated appropriately and adequately the following life threatening
- complications may occur.
- Peritonitis and intra-abdominal abscess
- Adhesions and intestinal obstruction
- Ectopic pregnancy
- Infertility
- Chronic pelvic pain
- Recurrent PID



PELVIC INFLAMMATORY DISEASE (PID)



PELVIC INFLAMMATORY DISEASE (PID)

- Pelvic inflammatory disease (PID) refers to a clinical syndrome resulting from ascending infection from the cervix and/or vagina.
- PID comprises a spectrum of inflammatory disorders of the upper female genital tract, including any combination of endometritis, salpingitis, tubo-ovarian abscess and pelvic peritonitis.
- The inflammation may also spread to the liver, spleen or appendix.
- The vast majority of PID with or without pelvic abscess improves with antibiotics alone and the fever usually subsides in less than 72 hours.
- However, failure to improve within 72 hours after antibiotic treatment indicates failure of medical treatment and the patient should be referred for surgical evaluation and treatment.

ETIOLOGY

- PID is frequently poly-microbial.
- The commonest pathogens associated with PID, which are transmitted sexually, are
 - Chlamydia trachomatis and
 - Neisseria gonorrhoea.
- Other causes which may or may not be transmitted sexually include:
 - Mycoplasma genitalium
 - Bacteroides species
 - E. coli
 - H. influenza
 - Streptococcus

CLINICAL MANIFESTATION

The commonest manifestations of pelvic inflammatory diseases include

- Lower abdominal pain
- Abnormal vaginal discharge
- Inter-menstrual or post coital bleeding
- Dysuria
- Backache
- Fever, nausea and vomiting
- Cervical excitation tenderness
- Adnexal tenderness
- Rebound tenderness
- Adnexal mass

MANAGEMENT: INDICATION FOR INPATIENT TREATMENT

- Hospitalization of patients with acute PID should be seriously considered when:
 - The diagnosis is uncertain
 - Surgical emergencies such as appendicitis and ectopic pregnancy cannot be excluded
 - Pelvic abscess is suspected
 - Severe illness precludes management on an outpatient basis
 - The patient is pregnant
 - The patient is unable to follow or tolerate an outpatient regimen
 - Patient has failed to respond to outpatient therapy.
 - PID in HIV patients

Thank

THANK YOU FOR LISTENING

you