Vaginal Discharge: Causes and Management

For MIMS Clinical update conference

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Introducing myself

- GP at Leeds Student Medical Practice since Sept 2008, Partner since November 2014
- Clinical Lead for the RCGP Introductory Certificate in Sexual Health since December 2011
- GP (with specialist role in Sexual and Reproductive Health) since 2012 for COMPASS Reach North Yorkshire
- From 4th June 2015, Vice President (for Training) of the Faculty of Sexual and Reproductive Health
- Previously worked full time in GUM services, part time in SRH services in London before becoming a GP in 2007, also worked sessions at the Leeds Centre for Sexual Health 2011-2013

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Potential conflicts of interest

- Sessional role at the **RCGP**-employed
- Role at the **FSRH**-voluntary

- **BAYER HealthCare**
- to attend conferences- ESC 2010, ESG 2011, ESC 2014
- financial support to my Practice to undertake investigator-sponsored study 2010
- Published in Journal of FP&RHC 2012
- payment to give a talk at the Primary Care Womens Health forum meeting in Sheffield 2012
- **PFIZER**
- Payment to give a talk on contraceptive choice 2014
- **MSD**
- Financial support to my Practice to undertake investigator-sponsored study 2012, awaiting

Vaginal discharge
causes and management

- Asking the right questions
- Identifying causes/differential diagnoses
- Managing causes
- Red flags
- When to refer?

Commonest causes

- physiological
- Infective
  STI and non-STI
- Non-infective

Physiological discharge

- Is normal and healthy for women of reproductive age to have some degree of vaginal discharge
- Quality/type of cervical mucus changes through the menstrual cycle
- Before ovulation, estrogen rises, altering mucus from thick/sticky (non-fertile) to clearer/wetter/stretchy (fertile)
- After ovulation, progesterone levels increase, mucus becomes thick/sticky/hostile to sperm once more
- Can be diagnosis of exclusion

Physiological discharge

- During fertile part of menstrual cycle

Normal vaginal flora

- At puberty, vagina becomes colonised with lactobacilli which produce lactic acid
- Normal vaginal pH is </= 4.5 ie acidic
- other commensals present can give a change in discharge if ‘overgrow’
- Candida albicans
- Staphylococcus aureus
- Group B Streptococci

Non-infective causes

- Foreign bodies (tampons and condoms)
- Cervical polyps and ectopy
- *no evidence that treatment of ectopy with silver nitrate/cautery of any value*
- Genital tract malignancy
- Fistulae
- Allergic reactions

Infective causes

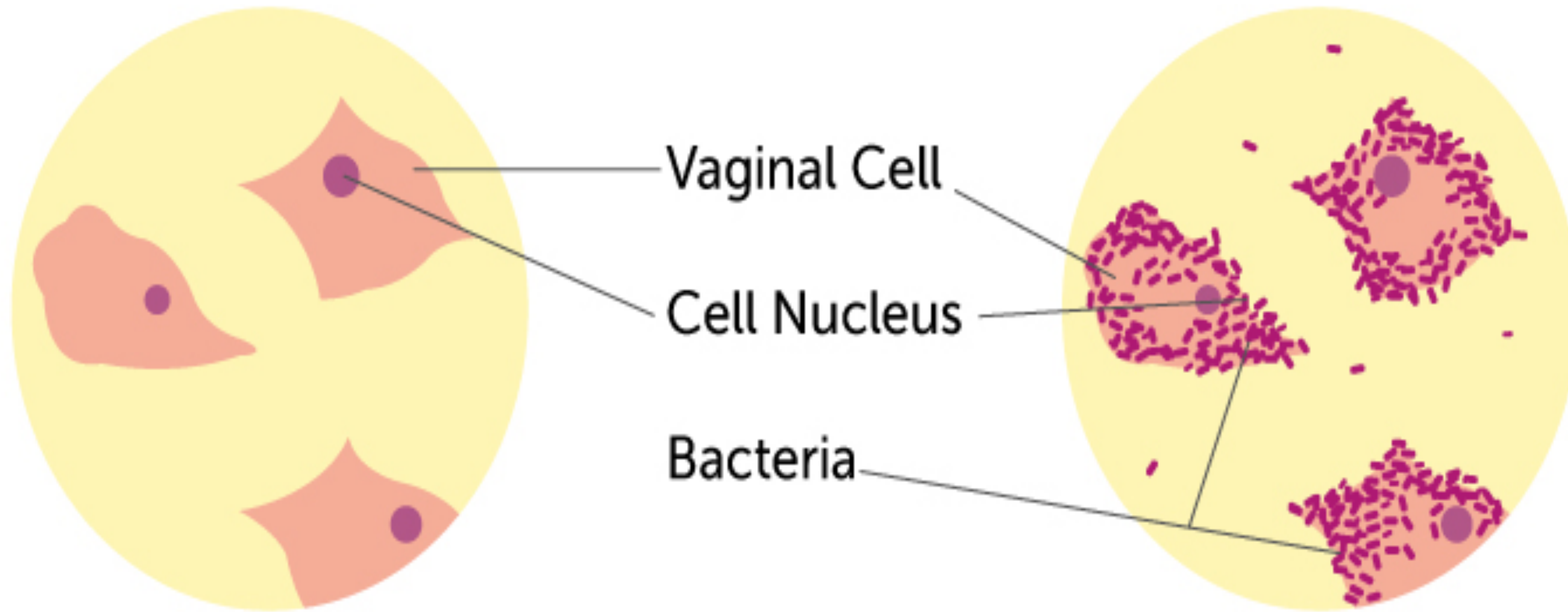
- <u>Non STI</u>

- Bacterial Vaginosis (BV)
- Candida

- <u>STI</u>

- *Chlamydia trachomatis*
- *Neisseria gonorrhoeae*
- *Trichomonas vaginalis*
- Herpes simplex virus (HSV)

Bacterial Vaginosis



Normal vaginal cells seen under a microscope.

"Clue Cells", vaginal cells with bacteria stuck to them.

Bacterial Vaginosis background

- Commonest cause of abnormal vaginal discharge in women of reproductive age
- Can occur and remit spontaneously
- Characterised by overgrowth of mixed anaerobic organisms that replace normal lactobacilli, leading to increase in pH
- '*if the pH is over 5, BV is alive!*'
- BV is not proven as an STI but has some links with sexual behaviour

Bacterial Vaginosis associations

- Recent change in sexual partner
- Presence of an STI , has been found in chlamydia/herpes/ pelvic inflammatory disease
- Women who have sex with women
- Ethnicity
- Presence of an IUCD
- 2nd trimester pregnancy loss
- Pre-term delivery
- Pre-term premature rupture of membranes
- Post-partum endometritis
- Post-TOP endometritis

Bacterial Vaginosis presentation

- Symptoms
- Malodorous discharge

- NOT associated with-
- Soreness
- Itch
- irritation

- Signs
- Thin white discharge
- Coating walls of the vestibule and vagina

- NOT associated with inflammation
- pH>4.5

Bacterial Vaginosis diagnosis

- In GUM settings
- Three different possible approaches
- Amsels criteria
- Hay/Ison criteria *BASHH recommends*
- Nugent criteria

- all involve the use of light microscope

- Outside GUM settings
- High vaginal swab??

- Limited use as organisms as commensals
- How is a HVS reported in your lab?
- Narrow range pH paper

Bacterial Vaginosis management

- General vulval advice
- Avoid vaginal douching
- Avoid perfumed products
- Avoid antiseptics in the bath

- Stop smoking
- WRITTEN INFORMATION
- Advise can recur
- Advise is NOT STI
- Though test for other STIs if not done already

- Treatment indicated for
- Symptomatic women
- Women undergoing some surgical procedures

Bacterial Vaginosis management

- Metronidazole 400mg bd 5-7d
- Metronidazole 2g stat dose
- Intravaginal metronidazole gel (0.75%) od 5d
- Intravaginal clindamycin cream (2%) od 7d

- Alternatives
- Tinidazole 2g stat dose
- Clindamycin 300mg bd 7d

All these treatments have achieved cure rates of 70-80% after 4 weeks, 2g metronidazole may be slightly less effective at 4wk compared to longer course

Allergy to metronidazole uncommon

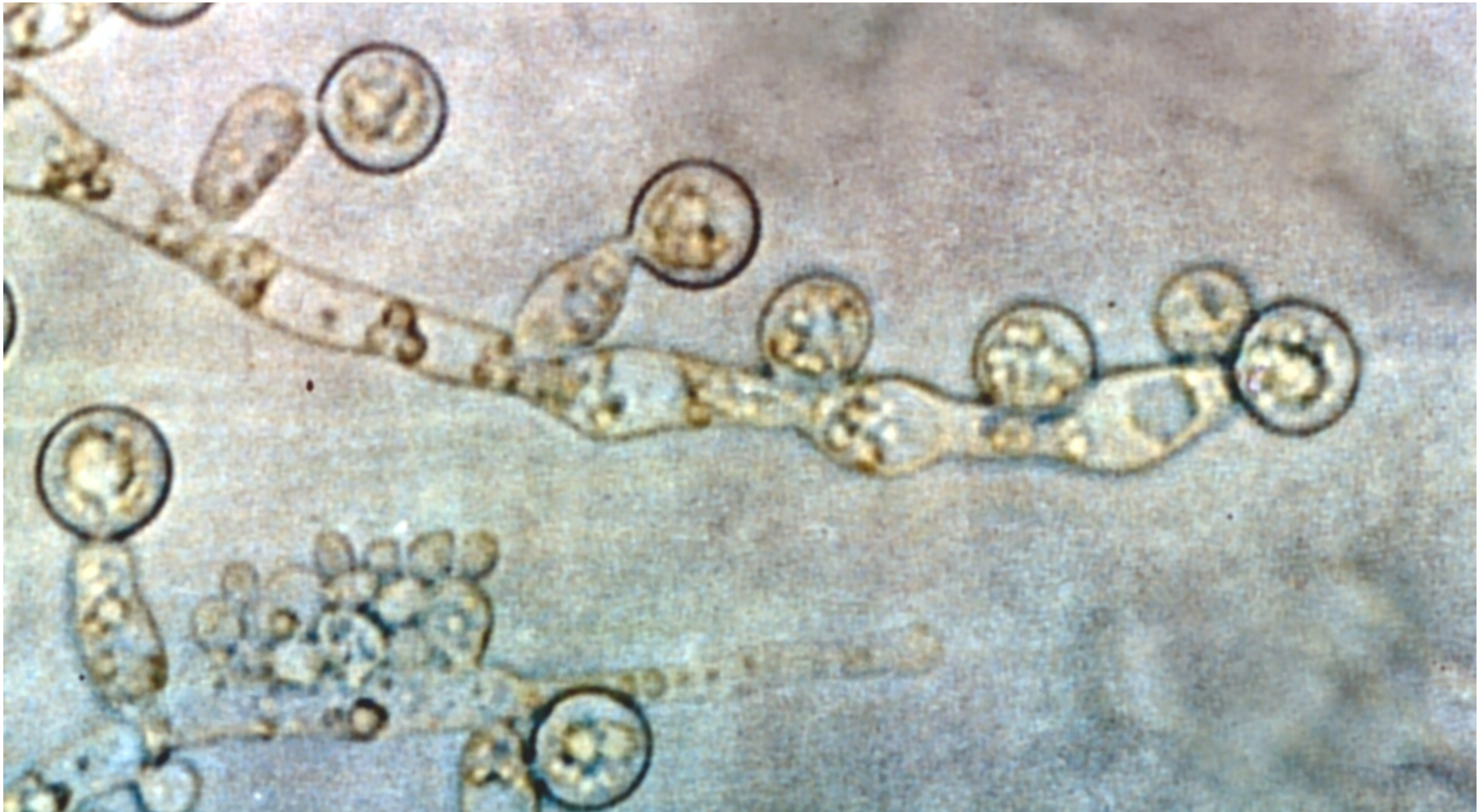
Bacterial Vaginosis management

- Avoid concomitant use of alcohol with metronidazole due to risk of disulfiram-like reaction
- Pseudomembranous colitis has been reported with both oral and intravaginal clindamicin
- * in BASHH guideline 2012, no proven efficacy for non-antibiotic based treatment with probiotic lactobacilli or lactic acid preparations*

Recurrent bacterial vaginosis

- No formal definition!
- In trials
- 0.75% MTZ gel twice weekly for 16 weeks
- Application of probiotic lactobacilli days 1-7, 15-21
- Both had lower recurrence rates compared to placebo
- Acigel (acetic acid gel) no longer available in the UK
- Lactic acid gel (eg BalancActiv) not evaluated adequately in RCTs

Candida



Candida background

- Common in women of reproductive age
- In 70-90% cases is *Candida albicans*
- Non-albicans types
- *Candida glabrata*
- *Candida krusei*
- *Candida tropicalis*
- Presence of candida vulvo-vaginally does NOT necessarily require treatment unless symptomatic, as up to 20% women will have colonisation

Candida associations

- Estrogenised state
- Reproductive years/pregnancy
- Diabetes mellitus
- Immunosuppressed host including HIV

- Some links to allergy in recurrent candida- see later slides

Candida presentation

- <u>Symptoms</u>
- Itch
- Soreness
- Discharge-white/thick/ ‘cottage cheese’like
- Superficial dyspareunia
- dysuria

- <u>Signs</u>
- Erythema
- Fissuring
- Non-offensive discharge
- Oedema
- Satellite lesions
- Excoriation

- None of these findings are pathognomonic and testing should support diagnosis

Candida diagnosis

- In GUM settings
- Test taken from SYMPTOMATIC women only
- On examination
- Gram stain/ microscopy
- Culture, plated on to fungal media

- In non-GUM settings
- High vaginal swab
- How is it reported in your lab?
- In Leeds, ‘yeasts’ 1, 2 or 3 +

Candida management

- Routine use of emollient as soap substitute/skin conditioner (NOT internal use)
- Avoid tight fitting synthetic clothing
- Avoid local irritants, such as perfumed products

- WRITTEN INFORMATION
- IS NOT AN STI
- Though offer tests for STI
- HIV testing
- May recur

- Variety of treatment options listed in BASHH guideline
- All giving clinical/ mycological cure rate of over 80%

- Choice is matter of personal preference, availability and affordability

Candida management

- Topical-eg
- Clotrimazole 500mg stat pessary
- Clotrimazole 200mg x 3 nights pessary
- Nystatin vaginal cream 4g x14 nights
- Nystatin pessary 1-2 x14 nights

- Oral-eg
- Fluconazole 150mg capsule stat
- Oral treatments NOT SAFE IN PREGNANCY
- Topical treatments can damage latex condoms and diaphragms

Recurrent candida

- Definition
- At least 4 documented episodes of symptomatic vulvovaginal candida annually, with at least partial resolution of symptoms between episodes
- Positive microscopy OR a moderate/heavy growth of *C albicans* should be documented on at least 2 occasions
- Approximately 5% of women with primary episode of candida will develop as recurrent condition
- So many women suspected to have recurrent candida may have allergy or vulval dermatosis eg contact dermatitis/eczema/psoriasis/lichen sclerosus

Recurrent candida

- Due to host factors rather than more virulent strain
- Uncontrolled diabetes mellitus
- Hyperoestrogenaemia
- 30-40% women colonised in pregnancy
- Immunosuppression
- Disturbance of vaginal flora eg broad spec antibiotics
- Link to allergy

Recurrent candida further investigation

- Speciation for candida types
- As non-albicans can be resistant to azoles
- Nystatin pessaries/boric acid PV/amphotericin B PV/flucytosine PV

- FBC
- Random blood glucose

- No link with low ferritin or low zinc
- Insufficient evidence to make any dietary recommendations
- No evidence of use of lactobacilli
- No evidence to recommend tea tree oil

Recurrent candida management

- First line regimen recommended
- Induction
- Fluconazole caps 150mg every 72hrs x3 doses

- Maintenance
- Fluconazole caps 150mg once a week 6mths

- About 90% of women will remain disease-free at 6 months and 40% at one year
- Could add cetirizine 10mg od if relapses during treatment (6 months)
- Zafirlukast 20mg bd 6 months may induce remission

Trichomonas vaginalis

Trichomonas vaginalis background

- Flagellated protozoan that causes vaginitis
- Always sexually transmitted
- 10-50% women are asymptomatic

Trichomonas vaginalis associations

- Detrimental outcome in pregnancy
- Associated with pre term delivery
- Associated with low birth weight
- May predispose to post partum maternal sepsis

- Growing evidence that TV infection may enhance HIV transmission

Trichomonas vaginalis presentation

- Symptoms
- Vaginal discharge, often offensive
- Itch
- Dysuria
- Lower abdominal pain (can give a PID picture)

- Signs
- Discharge
- Text book ‘yellow frothy’ in only 10-30% of women with TV
- Vulvitis
- Vaginitis
- Cervicitis
- Textbook ‘strawberry cervix’ in 2% of affected women
- pH>4.5

Trichomonas vaginalis diagnosis

- In GUM setting
- Wet preparation slide
- Drop of saline
- ,examine within 10 mins of collection-see organisms swimming about
- TV culture
- Molecular detection tests may be increasing used in future

- In non-GUM setting
- High vaginal swab
- Take from posterior fornix (discharge pooling there)
- How can you request from your lab?
- Eg Leeds, must specifically request TV

Trichomonas vaginalis management

- Advise is an STI
- Test for other STIs if not done so already, including HIV

- Written information

- Partner notification

- ABSTAIN FROM SI until completion of treatment period
- TEST and TREATMENT OF SEXUAL PARTNERS simultaneously

- Follow up at 2 weeks- TEST OF CURE ONLY IF REMAINS SYMPTOMATIC

Trichomonas vaginalis management

- Metronidazole 2g stat dose
- Metronidazole 400mg-500mg bd 5-7d-may be more effective

- alternative
- Tinidazole 2g stat dose

- No effective alternative!
- Desensitisation to metronidazole would be indicated in case of allergy

Trichomonas vaginalis management

- ‘Treatment failure’
- Usually due to inadequate therapy
- Or re-infection
- Or resistance

- Check sexual history
- BASHH TV guidelines gives protocol for non-response to standard therapy

Other infective causes of vaginal discharge

- **Chlamydia trachomatis**
- ASYMPTOMATIC in up to 70% women
- Treatment of lower genital tract infection with azithromicin 1g stat

- **Gonorrhoea**
- ASYMPTOMATIC in >>>>>>% women
- Refer all positives to GUM for treatment due to increasing antibiotic resistance

- So presence of discharge is not a sensitive indicator of an STI

- Both can give similar symptoms to candida/BV/TV
- **Herpes simplex virus**-cervical/vaginal sores can give vaginal discharge

Holistic management of woman presenting with vaginal discharge

- History
- Concerns/expectations
- Sexual history
- Assessment of symptoms, including characteristics of discharge and presence of associated symptoms
- *beware past history candida/BV, as studies suggest women with previous confirmed episodes not good at self diagnosis*
- Past medical history, including dermatoses
- Drug history including OTC use, contraceptive use
- Give consideration to non-infective causes during history taking
- Vulval care routine

Holistic management of woman presenting with vaginal discharge

- Examination/point of care investigation/STI testing
- Should be standard practice to examine all attending with genital symptoms
- STI testing should be offered to ALL sexually active women (as identified in sexual history taken)

- Inspection of external genitalia
- Speculum examination
- HVS
- Candida/BV/TV
- Vaginal walls/under cervix
- pH
- Endocervical/clinician taken vulvo-vaginal swab (sampling around urethra in addition)
- For gonorrhoea and chlamydia
- Eg in Leeds, can be done on one swab-HOW DOES IT WORK IN YOUR LAB?
- Testing for syphilis and HIV

Holistic management of woman presenting with vaginal discharge

- <u>Declines examination</u>
- Syndromic treatment based on clinical and sexual history
- Safety net regarding follow up

- <u>Accepts examination</u>
- treatment based on clinical history/sexual history/macroscopic findings on examination/pH
- Discuss access to results/follow up

Other aspects of management

- Explanation and written information
- Leaflets from the fpa
- BASHH are also producing, on their website

- Condom use
- Opportunity for discussion on contraception

- Partner notification if appropriate
- Information on risk reduction based on sexual history

Vaginal discharge in pregnancy

- Candida more common
- Oral candida treatments contraindicated in pregnancy
- May need longer treatment regimens

- BV associated with adverse pregnancy outcomes
- Avoid larger/stat dose in pregnancy/ breastfeeding

- TV associated with adverse pregnancy outcomes

- Follow treatment advice as for BV

- Inform obstetrician of testing/treatment
- Hand held notes?

Sexual history taking core components

- Last sexual intercourse (LSI)
- Partner gender/sites of exposure*/condom use
- Previous sexual partner (PSP) as for LSI
- Women: LMP/contraception/cytology
- HIV risk history
- Hep B and C risk assessment
- Any child protection concerns?
- Access to results
- * most practitioners worry about asking this

Sexual history taking core components

- Current/past use of injecting drugs, personal history or that of partners
- SI with anyone from abroad
- SI with men/bisexual partner
- Medical treatment abroad inc. transfusions
- SI with HIV positive partner
- Sex work

- History of HIV testing
- *tattoos

Are there any red flags?

- Low threshold for examination
- Will not miss foreign bodies which typically give BV
- Self reported ‘thrush’ has been found to be Herpes simplex infection
- Low threshold for repeat testing

- Bimanual pelvic examination may not be indicated at first assessment if no abdominal pain, but reasssess in persisting symptoms

- Undertake tests as ‘package’ with BV/ candida/TV/chlamydia/ gonorrhoea so if excluded, consider other causes

When to refer?

- What can you do in your practice/within your competencies?
- May need to refer when
- Unable to undertake partner notification
- Gonorrhoea culture needed in case of positive NAAT test or contact of gonorrhoea
- Failure to respond to treatment
- Diagnostic uncertainty
- Suspected Pelvic Inflammatory disease

- Referral to GUM with a letter
- As more likely to get letter in return

- Is there anyone in your local GUM clinic with interest in recurring BV/ Candida?
- What does gynaecological referral offer??

Vaginal discharge causes and management Key messages

- Physiological and infective (Non-STI) are most common causes
- Self diagnosis not reliable
- Don't forget TV
- Narrow range pH paper really useful
- SEXUAL HISTORY MUST BE PART OF ASSESSMENT

- Low threshold for examining
- Test for 'package' of tests
- Low threshold for repeat testing
- Caution with label of recurrent BV/candida
- Vaginal treatments can affect latex condoms/ diaphragms
- Much can be managed in primary care
- Little need to refer onwards, refer to GUM in first instance

Vaginal discharge causes and management

- Asking the right questions
- Identifying causes/differential diagnoses
- Managing causes
- Red flags
- When to refer?

References

- FSRH clinical guidance-Management of vaginal discharge in non-genitourinary medicine settings, CEU February 2012
- RCGP/BASHH STIs in Primary Care 2013
- BASHH guidelines
- Bacterial vaginosis 2012
- Vulvo-vaginal candidiasis 2007
- *Trichomonas vaginalis* 2014
- Vulval conditions 2014
- Consultations requiring sexual history taking 2013
- Standards for the management of STIs 2014

- All freely available on respective websites

THANK YOU

5 minutes for questions