Gynaecological Infections - Full Antibiotic Guideline

Reference no.: CG-ANTI/2023/032

1. Introduction

This guideline has been developed to deliver safe and appropriate empirical use of antibiotics for our women patients. The recommendations within this guideline provide targeted empirical regimens covering likely pathogenic organisms for defined infections.

2. General rules

- Take appropriate specimens for microscopy, culture and sensitivity testing prior to starting antibiotics. The choice of antibiotic should be reviewed with the culture and antimicrobial sensitivity results.
- Review intravenous treatment with a view to switching to oral therapy as soon as clinically appropriate.
- The antibiotic doses recommended in this guidance are intended for adult patients with normal renal and liver function. Refer to a pharmacist for further advice in these patients.

3. Contents

4. Empirical Antibiotic Therapy

1) Pelvic inflammatory Disease (PID)

For diagnosis and assessment of severity please refer to full clinical guidance for PID.

<table>
<tr><td rowspan="2">Mild to moderate PID

Manage as an outpatient where possible.
If indications for hospitalisation present, follow treatment for complicated PID.</td><td>First line: Intramuscular Ceftriaxone 1g single STAT dose
PLUS oral Doxycycline 100mg BD for 14 days
PLUS oral Metronidazole 400mg BD for 14 days</td><td rowspan="2">Ceftriaxone can be used in patients with non-severe penicillin allergy (if non-immediate without systemic involvement penicillin allergy).</td></tr>
<tr><td>Second line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy
or If allergy to doxycycline or metronidazole:
Oral Moxifloxacin* 400mg OD for 14 days

Discuss with microbiology or GUM if high risk of N. gonorrhoea infection or the patient is less than 18 years.

*Avoid Moxifloxacin in severe liver impairment or if patient is at risk of cardiac arrhythmias. Avoid in history of tendon rupture secondary to quinolones. Caution with increased risk of aortic aneurism or dissection</td></tr>
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Severe and complicated PID (Pyrexia >38°C, Tubo-ovarian abscess, or signs of pelvic peritonitis) Admit and treat as an inpatient initially.	**First line**: Intravenous Ceftriaxone 2g OD, continued until 24 hours after clinical improvement, **PLUS** oral Doxycycline 100mg BD for 14 days **PLUS** oral Metronidazole 400mg BD for 14 days If cannot tolerate oral treatment, then: Intravenous Ceftriaxone 2g OD **PLUS** intravenous Clarithromycin 500mg BD **PLUS** intravenous Metronidazole 500mg TDS	Ceftriaxone can be used in patients with non-severe penicillin allergy (if non-immediate without systemic involvement penicillin allergy). If there is no clinical improvement on intravenous antibiotics, imaging is required to exclude a collection – if present this should be drained. Surgical treatment needs to be considered in severe cases with clear evidence of a pelvic abscess.
	Second line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy or If allergy to doxycycline or metronidazole: IV Clindamycin 900mg TDS **PLUS** IV Gentamicin* dose as per trust guidelines. **THEN** Oral Clindamycin 450mg QDS to complete 14 days treatment. **OR** oral Doxycycline 100mg BD **PLUS** Metronidazole 400mg BD to complete 14 days treatment **Gentamicin levels need to be monitored if this regimen is used.*	

PID in pregnancy All pregnant women should be managed as having complicated PID. Admit and treat as an inpatient initially.	**First line:** IV Ceftriaxone 2g OD **PLUS** IV Erythromycin 500mg QDS **PLUS** IV Metronidazole 500mg TDS continued until 24 hours after clinical improvement. **THEN** Oral Erythromycin 500mg QDS **PLUS** oral Metronidazole 400mg BD to complete 14 days treatment.	Ceftriaxone can be used in patients with non-severe penicillin allergy (if non-immediate without systemic involvement penicillin allergy). If symptoms not improving discuss with Obstetrician/Gynaecologist or microbiologist.
	Second line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy or If allergy to erythromycin or metronidazole: IV Clindamycin 900mg TDS **PLUS** IV Gentamicin (discuss gentamicin dosing in pregnancy with pharmacy). **THEN** Oral clindamycin 450mg QDS to complete 14 days treatment	

2) Surgical procedure prophylaxis

Antibiotic prophylaxis is NOT routinely recommended in the following procedures:

- Molar pregnancy.
- Medical evacuation of incomplete miscarriage.
- Medical termination of pregnancy.
- Intrauterine contraceptive (IUCD) insertion.

Major gynaecology surgical procedure (pre-operative prophylaxis)	**First line:** IV Co-amoxiclav 1.2g STAT	All are single doses given on induction or in the 30 minutes prior to incision. If peritoneal soiling a further 2 doses post-op may be needed. *Doses up to 160mg can be given as a bolus over 3-5 mins. Doses >160mg to be added to 100ml sodium chloride 0.9% and infused over 30 mins
	Second line: if non-immediate without systemic involvement penicillin allergy: IV Cefuroxime 1.5g **PLUS** IV Metronidazole 500mg STAT	
	Third line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy **OR** known MRSA positive patient: IV Teicoplanin 6mg/kg rounded up to the nearest 200mg. Max 800mg **PLUS** IV Gentamicin 3mg/kg* up to a maximum dose of 300mg (round doses to the nearest 4mg) **PLUS** IV Metronidazole 500mg STAT	

Surgical termination of pregnancy and manual vacuum aspiration. **Or Early loss of pregnancy with surgical intervention.** All patients should be screened for Chlamydia, Gonorrhoea, and syphilis. Refer to GUM if positive to treat accordingly.	**First line:** Doxycycline 100mg BD for 3 days	If pyrexia, exclude retained products of conception. Send high vaginal swab.
	Second line: If allergic to doxycycline: Azithromycin 1 g orally on the day of abortion **OR** Metronidazole 1 g rectally or 800 mg orally prior to or at the time of abortion for women who have tested negative for *C. trachomatis* infection.	

Uterine artery embolization	**First line:** IV Co-amoxiclav 1.2g STAT	Single dose within the 60mins prior to procedure *Doses up to 160mg can be given as a bolus over 3-5 mins. Doses >160mg to be added to 100ml sodium chloride 0.9% and infused over 30 mins
	Second line: if non-immediate without systemic involvement penicillin allergy: IV Cefuroxime 1.5g **PLUS** IV Metronidazole 500mg STAT	
	Third line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy: IV Teicoplanin 6mg/kg rounded up to the nearest 200mg. Max 800mg **PLUS** IV Gentamicin 3mg/kg* up to a maximum dose of 300mg (round doses to the nearest 4mg) **PLUS** IV Metronidazole 500mg STAT	

3) Post-operative Infections

- Check previous MRSA screen results.
- Send wound swab and MRSA screen if no previous results.
- If febrile patient or initiating intravenous antibiotics, take blood cultures prior to starting antibiotics.
- Scan to exclude a collection, particularly if still pyrexial.

Superficial wound infection Send wound swab and MRSA screen.	**First line:** Flucloxacillin PO 1g QDS	Treat for 5-7 days
	Second line: if non-immediate without systemic involvement penicillin allergy or if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy: Clarithromycin PO 500 mg BD If there is an indication for intravenous antibiotics, please follow the trust guidance for cellulitis.	

Deep with possible organ space/ Intrabdominal infection Send wound swab and MRSA screen. Scan to exclude a collection, particularly if still pyrexial	**First line**: If no penicillin allergy or if non-immediate without systemic involvement penicillin allergy: IV Cefuroxime 1.5g 8 hourly **PLUS** IV Metronidazole 500mg 8 hourly **Add** IV Vancomycin or IV Teicoplanin (dose as per hospital guidelines) if known MRSA positive.	If a deep intra-abdominal/pelvic collection is present, duration and oral option should be discussed with a consultant microbiologist.
	Second line: if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy: IV Teicoplanin (dose as per hospital guidelines) **PLUS** IV Ciprofloxacin 400mg BD **PLUS** IV Metronidazole 500mg TDS	
	If suspected GI perforation with peritoneal soiling **Add** prophylactic fluconazole PO 200mg OD (Only use IV route if PO route inappropriate). Send cultures and beta d glucan (BDG) blood serum sample. Review with microbiology when results available.	

4) Other infections

Labial/Bartolin abscesses	**First line:** Co-amoxiclav PO 625mg TDS for 5 days	Incision and drainage to be considered.
	Second line: if non-immediate without systemic involvement penicillin allergy or if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy: Doxycycline (if neither pregnant or breast feeding) PO 200mg OD **PLUS** Metronidazole PO 400mg TDS for 5 days	
	Third line: if non-immediate without systemic involvement penicillin allergy or if immediate rapidly evolving or non-immediate with systemic involvement penicillin allergy or allergies to doxycycline and metronidazole: Clindamycin PO 300 mg QDS	

Bacterial Vaginosis	**First line**: Metronidazole PO 400mg 12 hourly for 5-7 days **OR** Metronidazole (0.75%) vaginal gel 5g once daily at bedtime for 5 days	
	Second line (if significant allergy or intolerance to Metronidazole): Clindamycin (2%) cream 5g once daily at bedtime for 7 days **OR** Clindamycin 300 mg twice daily for 7 days	

UTI in pregnancy	Click here for full clinical guidelines	
UTI in non-pregnant female	Click here for full clinical guidelines	

5. References (including any links to NICE Guidance etc.)

a. British Association for Sexual health and HIV (BASSH) PID guideline updated January 2019. BASHH Guidelines

b. NICE guideline NG140; Abortion Care September 2019. https://www.nice.org.uk/guidance/ng140.

c. NICE guideline [NG125] Recommendations | Surgical site infections: prevention and treatment | Guidance | NICE

d. UK National Guideline for the management of Bacterial Vaginosis. BASHH BV guideline 2011 (bashhguidelines.org)

5) Documentation Controls

<table>
<tr><td>Reference Number

CG-ANTI/2023/032</td><td colspan="2">Version: 3</td><td>Status

Final</td><td></td></tr>
<tr><td rowspan="3">Version / Amendment History</td><td>Version</td><td>Date</td><td>Author</td><td>Reason</td></tr>
<tr><td>3</td><td>November 2023</td><td>Fadwa Elsanousi</td><td>Antimicrobial options for management of PID in severe penicillin allergy added (as per BASHH guidelines 2019)
Post operative wound infection separated into superficial infection, deep infection, and deep infection in case of perforation with peritoneal soiling.
Other infections added (labial abscesses & bacterial vaginosis)</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Intended Recipients: Doctors, nurses, pharmacists</td></tr>
<tr><td colspan="5">Development of Guideline: Fadwa Elsanousi
Job Title: Consultant Microbiologist</td></tr>
<tr><td colspan="5">Consultation with: Kayleigh Lehal - Lead Antimicrobial Pharmacist</td></tr>
<tr><td colspan="3">Approval</td><td colspan="2">Group: Antimicrobial Stewardship Group
Date: 19/12/2023</td></tr>
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Kayleigh.lehal@nhs.net Kayleigh Lehal - Lead Antimicrobial Pharmacist</td></tr>
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