

Moxifloxacin – how would CDHB stack up in a PHARMAC audit?

- PHARMAC has started “friendly” audits on compliance with the Hospital Medicines List (HML) at some DHBs.
- The first antimicrobial selected for audit is moxifloxacin.
- Moxifloxacin is a fourth generation quinolone with antibacterial activity against Gram-negative (eg. *E. coli*) and Gram-positive (eg. *S. pneumoniae*) aerobes, as well as anaerobes and atypical organisms (eg. legionella). As it is a broad spectrum antimicrobial, both appropriate and inappropriate use will drive resistance.
- HML rules for the use of moxifloxacin are based on the patient having a specific indication and, in most cases, the “right” specialist endorsement (eg. infectious diseases physician, clinical microbiologist) (**blue box**).
- We reviewed moxifloxacin use at CDHB against the HML restrictions to see how we would fare in an audit. Overall, compliance was poor with most usage outside of restrictions (**green box**).

PHARMAC Hospital Medicines List restrictions

Moxifloxacin

Mycobacterium infection – infectious diseases physician, clinical microbiologist or respiratory physician

1. Active tuberculosis, with specific sub criteria such as documented resistance to one or more first-line agents or significant pre-existing liver disease from tuberculosis medications (refer to the HML for further details).
2. Mycobacterium avium-intracellulare complex not responding to other therapy or where such therapy is contraindicated.

Pneumonia – infectious diseases physician or clinical microbiologist

1. Immunocompromised patient with pneumonia that is unresponsive to first-line treatment, or
2. Pneumococcal pneumonia or other invasive pneumococcal disease highly resistant to other antibiotics.

Penetrating eye injury – ophthalmologist

Five days treatment of patients requiring prophylaxis following a penetrating eye injury.

Mycoplasma genitalium

All of the following:

1. Has nucleic acid amplification test (NAAT) confirmed mycoplasma genitalium, and
2. Has tried and failed to clear infection using azithromycin, and
3. Treatment is only for 7 days.

Moxifloxacin at CDHB

Over the past 6 months

- 26 patients were prescribed moxifloxacin at CDHB over the past 6 months (1/1/14 – 30/6/14).
- Clinical records were reviewed for 21 of these to identify the indication for use:
 - Moxifloxacin was mainly used to treat eye (n=13 ie. 62%) or respiratory (n=8 ie. 38%) problems.
 - One-third (n=7) of indications were compliant with HML rules (4 prophylaxis of penetrating eye injuries, 2 resistant pneumococcal pneumonias and 1 suspected resistant active tuberculosis).
 - Two-thirds (n=14) had non-HML indications eg. treatment of endophthalmitis, pneumonia in patients with antibiotic allergies and resistant pneumococcal respiratory conditions other than pneumonia.
- Documentation regarding HML restrictions was poor (**orange box**).

Use of antimicrobials outside of HML requirements at CDHB

- Medication restrictions within the HML are specialist- or indication-based, or both:
 - *Specialist-based HML restrictions* require recommendation by a relevant specialist. For example, Infectious Diseases or Clinical Microbiologist approval is required for ciprofloxacin and vancomycin. A relevant specialist must be involved in providing patient specific approval **or** prescribing must be in accordance with a CDHB approved guideline (eg. Pink Book). This must be documented in the clinical notes.
 - *Indication-based HML restrictions* eg. HIV treatments.
 - *Indication plus specialist-based HML restrictions* eg. moxifloxacin has *both* specialist and indication restrictions.
- For urgently required antimicrobials for indications outside of HML restrictions, Clinical Director approval is required and an online reporting form within Health Connect South must be completed (see Clinical Pharmacology intranet, Bulletin 013/13 Nov 2013.)*
- CDHB is obliged to follow HML rules. Failure to do so *will* jeopardize our unique clinically led prescribing system and may result in medications not being available until they are approved (or denied) by a local therapeutics committee (as occurs in other DHBs).
- If you have queries or concerns about HML restrictions please contact your ward pharmacist, drug information (ext. 80900), the antimicrobial pharmacist (sharon.gardiner@cdhb.health.nz) or PHARMAC (0800 660 050).

**This method of online reporting only applies when the patient would, within 5 working days, be expected to experience either significant deterioration or miss the opportunity for a significant improvement in clinical outcomes (length or quality of life). For treatment that is not required within 5 working days, the clinician is required to apply directly to PHARMAC using a Named Patient Pharmaceutical Assessment (NPPA) form.*