Waterford: Antimicrobial Guidelines - Antimicrobial Guideline: Tobramycin Dosing Schedule

Tobramycin

General Information

Tobramycin is an aminoglycoside antibiotic with a narrow therapeutic index. Effective use is complex and should be discussed with Microbiology or Infectious Diseases.

Weight-based dosing and therapeutic drug monitoring (TDM) are essential to ensure therapeutic efficacy and to minimise the risk of adverse effects such as nephrotoxicity, vestibular and ototoxicity. Note: risk is increased in renal impairment, in prolonged therapy, in patients receiving higher doses or for those on concomitant nephrotoxic medications.

Tobramycin is a restricted antimicrobial which should only be prescribed when it is in line with the recommendations of local antimicrobial guidelines or following discussion with Clinical Microbiology/Infectious Diseases.

Once daily dosing of Tobramycin is recommended for most patients. Discuss patients with renal impairment (creatinine clearance <30ml/minute) with Pharmacy/Clinical Microbiology/Infectious Diseases.

Use dose calculations as outlined below however **do not delay 1 st doses** in patients requiring urgent therapy if renal function information is not available. Do NOT hold dose while waiting for level to be reported in a patient <65 years with good renal function (creatinine clearance >80ml/minute) and good urine output, unless specifically advised to do so.

However, in a patient >65 years, or with abnormal renal function (creatinine clearance <80ml/minute), it is preferable to await the result of the first tobramycin level (i.e. before the second dose) before giving the next dose. If the level is <1mg/L and renal function is stable it is not necessary to routinely hold subsequent doses pending levels.

Review need for ongoing treatment with tobramycin on a <u>daily basis</u> - courses should not usually exceed 3 days, except in cystic fibrosis. Please discuss patients on extended treatment courses of tobramycin with Clinical Microbiology/Infectious Diseases.

**** Note: These recommendations do not apply to the use of tobramycin in cystic fibrosis patients - these patients must be discussed with a specialist. ****

Adverse Effects

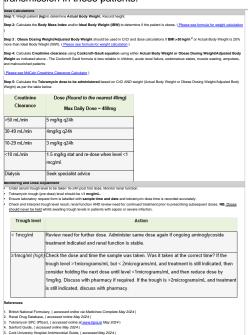
Vestibular and ototoxicity can occur independently of serum tobramycin levels and duration of treatment, however the risk increases significantly with higher cumulative doses and courses of longer durations.

Nephrotoxicity: Consider renal function, volume status, and the use of concomitant nephrotoxic agents such as NSAIDs, ACE inhibitors, and diuretics, when prescribing aminoglycosides.

Cautions and Contraindications

Caution is advised in patients with auditory and vestibular disorders, and conditions characterised by muscular weakness.

Aminoglycosides (Gentamicin, Amikacin, Tobramycin) are <u>contraindicated</u> in patients with **myasthenia gravis** as they may impair neuromuscular transmission in these patients.



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