Tobramycin Intravenous (patients of all ages)

Who can administer

May be administered by registered competent doctor or nurse/midwife

Important information

- **Dose MUST be individualised** according to renal function and weight - a tobramycin **dose calculator on the GAPP antimicrobial app for once-daily dosing for non-cystic fibrosis patients** should be used to calculate the dose. For Cystic fibrosis (CF) patients- see below Dose
- **Once daily dosing** is recommended for most patients
- **Monitoring** requirements - see overleaf
- **Do NOT hold** dose in patients less than 65 years of age, with good renal function (CrCl>80ml/min with good urine output) while waiting for levels to be reported **unless** there are reasonable grounds for suspecting toxicity
- **However,** in patients **over 65 years**, or with **abnormal renal function** (CrCl <80ml/min**)** -it is generally preferable to await the result of the first tobramycin level (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, unless there are obvious signs of toxicity
- Prolonged duration of treatment and co-administration with nephrotoxins (eg diuretics, NSAIDs, vancomycin) increases the risk of toxicity and should be avoided where possible
- Effective use of tobramycin is complex and should normally be discussed with micro/ID/CF consultants

Available preparations

Tobramycin 80mg per 2ml vial

Reconstitution

Already in solution

Infusion fluids

Sodium chloride 0.9% or glucose 5%

Methods of intravenous administration

Intermittent intravenous infusion

- Once daily dose: Add required dose to 100ml infusion fluid and administer over 20 to 60 minutes
- A 50ml infusion may be used if required (eg fluid restriction) but the residual volume in the infusion line must be flushed through at the same rate to avoid significant underdosing

Dose in adults

For non-Cystic Fibrosis patients [ref 1]

- Use the **Tobramycin dosing calculator** in the GAPP app to calculate **once-daily** tobramycin once-daily dose in **non-CF patients**
- See also this table

Cystic fibrosis patients

- Give 10mg/kg as a single daily dose if renal function is normal [ref 1]
- Maximum dose is **660mg in children** less than 18 years, and 700mg for all other patients
- If Actual Body Weight exceeds Ideal Body Weight by more than or equal to 20%[ref 2], an Adjusted Dosing Weight should be used to calculate the dose - contact Pharmacy for advice
- **Renal impairment:** Contact Microbiology

Monitoring

- Monitor for **ototoxicity** and **nephrotoxicity**
- Monitor tobramycin levels and urine output
- Monitor renal function also as toxicity may occur in patients in whom the aminoglycoside levels have never exceeded the acceptable range
- Take the first level before the second dose. Take the level within one hour before the dose is due
- Blood samples must be labelled with the time sample was taken

	Pre-dose (trough)
Single daily dose	Taken just before next dose i.e. 24 hours Less than 1mg/L

Non-CF patients - Levels twice weekly

Cystic fibrosis patients - take level once weekly (if stable renal function)

Renal impairment/nephrotoxic risk/diuretic therapy -- take levels more frequently

Storage

Store below 25^{0}C

References

SPC Mylan 10/2022

1:GUH antimicrobial guidelines

2: Sanford guide to antimicrobial therapy (Feb 2021)- digital copy accessed Jan 2025

Therapeutic classification

Aminoglycoside antibiotic

BNF
Bacterial infection