

Aminoglycoside use with OPAT

Fiona Gilmore

Lead OPAT Pharmacist Northern Trust

Our experience using OPAT Aminoglycosides

- September 2022 to date
 - 8 patients (1 current)
 - Bed days saved 184
 - 0 drug related events associated with Aminoglycosides
 - 3 admission avoidance/5 early discharge
 - Indications
 - Bronchiectasis
 - Non-tuberculous mycobacteria
 - Cystic fibrosis infective episode
 - 24 TDM levels taken
 - 1 Amikacin level result >40 (taken after the dose given in error-repeat level normal)

Aminoglycosides

- OPAT Amikacin and Tobramycin as synergistic agent
- No Gentamicin – patients requiring gentamicin attend DAU daily

Amikacin

- Dose

Using the appropriate weight and CrCl (ml/min) as decided above, calculate the initial dose as described below:

CrCl (ml/min)	*Dosage regimen
>50	15mg/kg every 24 hours
20-50	5-6mg/kg every 12 hours
10-20	3-4mg/kg every 24 hours
<10	2mg/kg every 24-48 hours

***MAXIMUM DOSE 1.5G per day (Maximum cumulative dose over full course is 15g)**

Tobramycin

- Dose

Using the appropriate weight and CrCl (ml/min) as decided above, calculate the initial dose as described below:

CrCl (ml/min)	Dosage regimen
>50	3-5mg/kg every 24 hours
20-50	1-2mg/kg every 24 hours
<20	1mg/kg every 24 hours

Monitoring

- Amikacin & Tobramycin
 - Trough level pre dose day 2
 - Don't withhold doses awaiting result
 - Levels on Monday & Thursday initially
 - Reduced to once weekly if longer duration
 - Extend frequency if stable levels and renal function

Outcomes

- 1 ongoing
- 6 treatment aim attained – uncomplicated
- 1 treatment aim attained – complicated
 - ADR, joint problems with Ciprofloxacin

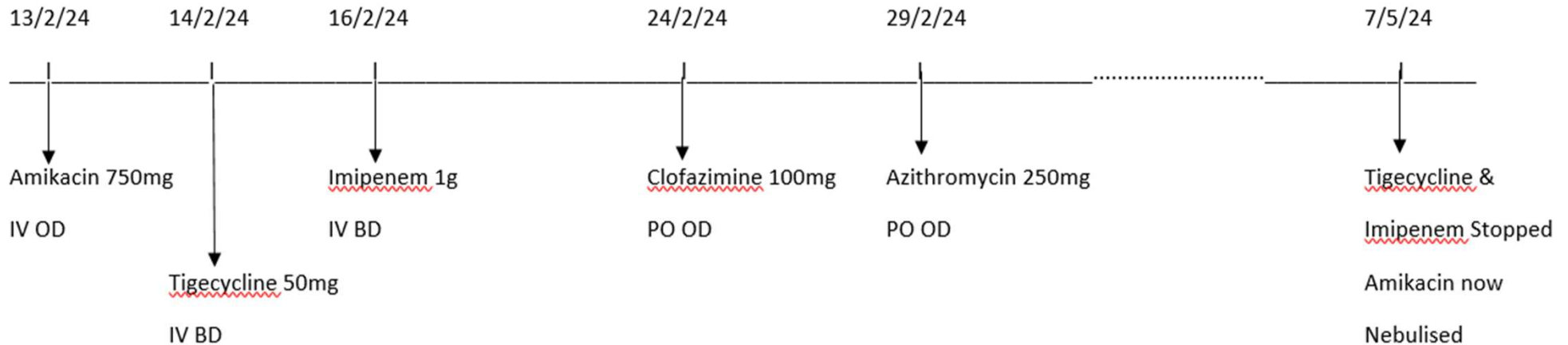
Case study

- 53y Female
- *Mycobacterium abscessus* pulmonary disease
- PMHx – Asthma, T2DM (Diet controlled)
- Allergies – Grass/pollen, Penicillin (Rash)
- Referred by GP June 2023
 - Night sweats
 - Weight loss
 - Dry cough for 2-3 months
 - Raised ESR
 - Abnormal CXR with airspace changes in the left upper lobe, pleural thickening and minor pleural thickening on the right

Case study continued.....

- Investigations
 - CXR, CT, Lung function, Bloods, Sputum samples, Bronchoscopy
- Diagnosis
 - Bronchial washings cultured *Mycobacterium abscessus*

Treatment



- Discharged 14/3/24
- 55 days on OPAT IV Amikacin
- 11 amikacin levels on OPAT (results between 1.0 – 2.2)
- Still on OPAT treatment at present for oral Linezolid monitoring

OPAT team input

- Prescription, supply & delivery of treatment to patients local hospital site
- Arranging TDM and routine bloods and following up results
- Communicating issues to consultant
- Communicating changes in treatment
- Counselling patient of medications