

The Use of Temocillin In The Oxford Radcliffe Hospitals NHS Trust

- Cystic fibrosis (CF) patients with an infective exacerbation of *Burkholdia cepacia* may be started on IV antibiotics if a combination of the following signs and symptoms are present:
 - Increasing sputum production and/or a change in appearance of expectorated sputum
 - Increasing cough
 - Increasing breathlessness
 - Decreased exercise tolerance
 - Malaise, fatigue or lethargy
 - Weight loss > 1kg or 5% of body weight associated with anorexia
 - Coughing up blood
 - Sinus pain
 - Fever (>37.9°C for at least 4 hours in a 24 hour period) on more than one occasion in the previous week
 - Deteriorating lung function – Decrease in FEV₁ (of more than 10% from previous baseline value)
 - New findings on chest examination (e.g. crackles and wheezes)
 - Decrease in oxygen saturation (of more than 10% from previous baseline value)
 - New findings on CXR
 - Work absenteeism , due to illness, in the previous week

- The IV antibiotic therapy used to treat *B.cepacia* in CF patients is usually a combination of a drug from Group One and Group Two from the following table:

Priority of Choice	Group 1	Group 2
1 st Line	Ceftazidime 2-3g every 8 hours	Gentamicin 7mg/kg/daily
2 nd Line	Meropenem 2g every 8 hours	Tobramycin 5-7mg/kg/day
3 rd Line	Tazocin 4.5g every 8 hours	Amikacin 7.5mg/kg in two divided doses
4 th Line	Aztreonam 2g every 8 hours	

- In addition co-trimoxazole is sometimes used in combination with the above
- IV courses are usually for a minimum of 2 weeks

What is Temocillin and when should it be used?

- Temocillin is a beta-lactam, derived from Ticarcillin. It is active against *B.cepacia*
- Temocillin would be used in moderate or severe *B.cepacia* exacerbations in CF patients whose sputum sensitivities show pan-resistance to the regular *B.cepacia* antibiotics and/or who have previously responded poorly to standard antibiotics.
- Poor response includes:
 - Less than 10% improvement in lung function
 - Less than a 20% reduction in CRP on at least 7 days conventional IV treatment for *B.cepacia*
 - No change in sputum volume or colour
 - Seek Specialist advice from Dr Lesley Bennett and Dr Malcolm Benson – CF Respiratory Consultants – for further information
- Temocillin has good synergy with meropenem, ciprofloxacin and tobramycin
- **Authorisation:** The use of temocillin in CF patients within the ORH can ONLY be authorised by Dr Lesley Bennett and Dr Malcolm Benson

Using Temocillin

- *Dosage:* Usual adult dosage is 2g every 12 hours
- *Administration:* Once reconstituted appropriately, temocillin is given slowly over 3 - 4 minutes intravenously – Full details are available in the IV monograph for temocillin
- Therapeutic monitoring is NOT required with this drug
- *Length of course:* Initially two weeks, with reviews every 7 days
- Temocillin is held in on the Churchill site only. The respiratory pharmacist should be made aware of the need for temocillin for a patient at least 24 hours before it is needed. The drug should not be requested out of hours.

The following parameters must be recorded for each CF patient treated with temocillin pre- and post IV course:

- Lung function parameters – FEV₁ and FVC
- Temperature
- CRP
- Oxygen saturation using oximetry (and arterial blood gas measurements if necessary)

The time between IV courses should also be recorded

