Bedfordshire, Luton & Milton Keynes Area Prescribing Committee

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Use of nebulised Colistimethate sodium, nebulised Gentamicin and nebulised Tobramycin as Antibiotic Prophylaxis to prevent exacerbations of Non- Cystic Fibrosis Bronchiectasis in Adult Patients

Updated from a previous version approved by the Bedfordshire & Luton Joint Prescribing Committee, September 2020

Prescribing criteria for nebulised antibiotics
Nebulised antibiotics may be considered for initiation in adult patients who meet the following criteria:

1. **Nebulised colistimethate sodium, nebulised gentamicin and nebulised tobramycin prophylaxis** to prevent acute exacerbations of non-cystic fibrosis bronchiectasis should only be initiated by a specialist.
2. **The criteria apply to nebulised colistimethate sodium, gentamicin or tobramycin only and do not apply to dry powder inhalers.**
3. **Prior to starting treatment, funding approval must be sought via Blueteq**.
4. To ensure shared decision-making, the following should be discussed with the patient:
    - the potential benefits of antibiotics for reducing exacerbations (taking into account the uncertain evidence of benefit for inhaled antibiotics)
    - the risks of antimicrobial resistance with long-term antibiotics, which may mean fewer effective antibiotics for future exacerbations.
    - the possible adverse effects of long-term antibiotics, such as:
        - diarrhoea, cardiac events, hearing loss or tinnitus
        - bronchospasm with inhaled antibiotics
    - the possible interactions of macrolide antibiotics with other medicines (when applicable).
    - the need to regularly review prophylaxis.
    - the **off-label status** of nebulised antibiotics for non-CF bronchiectasis
5. All other aspects of management, including airways clearance, are optimal.
6. Patients have been adequately investigated with sputum culture (including tests for non-tuberculous mycobacteria (NTM)), and consideration of fungal investigations, lung function, and radiological investigations.

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The following organisations contribute to and participate in the BLMK APC – Bedfordshire, Luton and Milton Keynes Integrated Care Board; Bedfordshire Hospitals NHS Foundation Trust; Cambridgeshire Community Services NHS Trust; Central and North West London NHS Foundation Trust; East London NHS Foundation Trust; Milton Keynes University Hospital NHS Foundation Trust

7. **The patient has:**
    - experienced 3 or more exacerbations per year **and**
    - clinically significant/symptomatic pseudomonal lung infection (impacting on the patient's activities of daily life) **and**
    - would otherwise be admitted for IV antibiotics **and**
    - previous history of repeated admissions with lengthy hospital stays

Choices of nebulised therapies

Line of therapy	Antimicrobial	Formulary status
First	Colistimethate sodium 1-2 million units nebulised twice daily	**Amber SpIS**[1, 2]
First (alternative) / second	Gentamicin 80mg nebulised twice a day or 160mg nebulised once or twice a day	**Red – Primary care prescribing not recommended**
Third	Tobramycin 300mg nebulised twice daily[3]	**Red – Primary care prescribing not recommended**

Notes:

1. As all nebulised antimicrobials for non-CF bronchiectasis are off-label, the Specialist must ensure that the GP/primary care prescriber is made aware of this information before prescribing is transferred.
2. Amber SpIS: Must be initiated by the Specialist but may be continued by the GP/non-medical prescriber.
3. Tobramycin nebuliser solution nebulised twice daily for 28 days alternating with either no nebulised antimicrobial or nebulised colistimethate.

Alternative therapy options:
(note: patient to be advised of possible interactions of macrolide antibiotics with other medicines)

- Consider azithromycin or erythromycin as an alternative (e.g., if a patient does not tolerate inhaled antibiotics) to an inhaled antibiotic for patients with bronchiectasis and chronic *P. aeruginosa* infection.
- Consider azithromycin or erythromycin as an additive treatment to an inhaled antibiotic for patients with bronchiectasis and chronic *P. aeruginosa* infection who have a high exacerbation frequency.

Criteria for Continuation – Initial review at 3 months then every 6-12 months
Clinical response to treatment with no lung function decline (at 3 months) **and** reduction in hospital admissions and/or length of hospital stay, reduction in exacerbations (at 12 months)

Stopping Criteria
No change to frequency of exacerbations or hospital admissions, or as determined by specialist.

References

1. British Thoracic Society Bronchiectasis in Adults Guideline Development Group. British Thoracic Society. Guideline for Bronchiectasis. Thorax. 2019; 74 S I. Accessed via https://www.brit-thoracic.org.uk/quality-improvement/guidelines/bronchiectasis-in-adults/.
2. Joint Formulary Committee. British National Formulary (online) London: BMJ and Pharmaceutical Press. Accessed via https://bnf.nice.org.uk/.
3. Bronchiectasis (non-cystic fibrosis), acute exacerbation: antimicrobial prescribing, NICE guideline NG117, Published: 18 December 2018. Accessed via https://www.nice.org.uk/guidance/ng117.
4. Summary of Product Characteristics. Colomycin injection, last updated 12 Jul 2023. Accessed via http://www.medicines.org.uk/emc/.
5. Summary of Product Characteristics. Cidomycin 80mg/2ml Solution for Injection, last updated 16 Apr 2024. Accessed via http://www.medicines.org.uk/emc/.
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