LOTHIAN PRESCRIBING BULLETIN

Supporting prescribing excellence - informing colleagues in primary and secondary care

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2015 Calendar enclosed

Preserving antibiotics – Alert Antibiotic Policy for hospitals

The purpose of the Alert Antibiotic Policy is to preserve antimicrobials which are still active against resistant organisms. Resistance to antibiotics is recognised as a major threat to public health and patient safety, and strongly linked with excessive and inappropriate use of broad spectrum antibiotics.

The alert antibiotics, all of which are administered by the intravenous route, should only be used for the permitted indications detailed in the policy or on the advice of a microbiologist or infectious diseases (ID) consultant. Consultation is strongly recommended in all difficult cases. When a patient requires an alert antibiotic the prescriber must complete a monitoring form and submit it to the pharmacy department. If approved, the medicine is supplied to the ward for the individual patient. Treatment is then reviewed on a daily basis.

Data from the forms is collated and adherence to the policy is monitored. More information on the alert antibiotic Policy and the monitoring form are available on the intranet at http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/amt/Pages/Alert.aspx.

Alert antibiotics [all intravenous]	Most frequent prescribed indications
azithromycin	pelvic inflammatory disease due to chlamydia
cefazolin	meticillin-sensitive Staphylococcus aureus (MSSA)
ceftaroline	complex skin and soft tissue infections
ceftazidime	multidrug resistant (MDR) pseudomonas
daptomycin	vancomycin-resistant enterococcus (VRE)
ertapenem	multidrug resistant (MDR) E. coli
fidaxomicin	severe cases of C. difficile
fosfomycin	exacerbation of cystic fibrosis
levofloxacin	exacerbation of cystic fibrosis
linezolid	sepsis
meropenem	ventilator associated pneumonia (VAP)
moxifloxacin	multidrug resistant (MDR) tuberculosis
temocillin	exacerbation of cystic fibrosis
tigecycline	resistant abdominal/skin infections

Only 50-60% of alert antibiotics are used for the permitted indications. The remaining 40-50% of alert antibiotics are used for other indications on the advice of a microbiologist or ID consultant. **Meropenem** and **linezolid** make up the majority of alert antibiotics used in Lothian (81% RIE; 70% WGH; 50% SJH). **Ceftazidime** accounts for 18% of alert antibiotics used at the WGH.

Implementation of the Alert Antibiotic Policy has helped improve the appropriate use of very broad spectrum antibiotics. IntraVenous to Oral STepdown (IVOST) ward rounds will further support the appropriate use of alert antibiotics. Where possible these antibiotics should be de-escalated to antibiotics with a narrower spectrum, IV changed to oral therapy, or stopped as appropriate.

Key messages

- **Adherence to the Alert Antibiotic Policy is required for use of selected broad spectrum and/or restricted use antibiotics.**
- **Alert antibiotics should only be used for individual named patients.**
- **Continued use of all alert antibiotics should be reviewed daily.**

Thanks to Ms Alison Cockburn and Ms Carol Philip, Lead Antimicrobial Pharmacists, for contributing this article.

Melatonin for sleep disorders in children

Melatonin, a naturally occurring hormone produced by the pineal gland in the brain, is involved in the sleep-wake cycle and sleep regulation. Various unlicensed preparations are available but the only licensed preparation available in the UK is melatonin 2mg prolonged-release tablets (Circadin®). Circadin® is licensed as monotherapy for short-term treatment of primary insomnia characterised by poor quality of sleep in patients aged 55 or over, however the Scottish Medicines Consortium have advised that this is not recommended for use within NHS Scotland.

Evidence

A NICE evidence summary concluded that no high quality studies were identified that provided evidence for the efficacy of prolonged release melatonin tablets (licensed in the UK) used off-label in children with sleep disorders and attention deficit hyperactivity disorder (ADHD).[1] Limited evidence for unlicensed melatonin products was identified from two small (n=105 and 19) short term randomised controlled trials (RCTs) and one small, long-term follow-up study (n=94). The evidence suggested that unlicensed melatonin products, taken for 10 days to four weeks, may reduce sleep onset latency (the time taken for a child to go to sleep) in children with sleep onset insomnia and ADHD by approximately 20 minutes.

In addition melatonin may improve average sleep duration by 15 to 20 minutes. However, there were limitations to these small studies, and longer term efficacy was unclear. These RCTs included stimulant and non-stimulant treated children aged six to 14 years with ADHD and suffering from sleep onset insomnia. The studies used daily doses of between 3 and 6mg of unlicensed melatonin described as 'fast-release' or 'short-acting', administered shortly before bedtime. Associated improvement in ADHD-related behaviour, cognition or quality of life was not robustly demonstrated.

Safety

Unlicensed melatonin appeared relatively safe in the short term (up to 30 days) and medium term (up to 18 months), but its safety in the long term in children and young people with ADHD was unclear.[1]

Local recommendations

The LJF for Children recommends no treatment as first choice in sleep-wake cycle disorders. Melatonin or chloral hydrate are recommended as second choices, and should only be prescribed as part of a comprehensive package of treatment including sleep hygiene methods. Melatonin is prescribed according to a shared care arrangement and should only be initiated in secondary care. It is used in children over three years of age with neurodevelopment disability, autism, visual impairment or neuropsychiatric disorders and chronic sleep disturbance. The products used at the Royal Hospital for Sick Children are Bio-Melatonin® 3mg tablets (unlicensed) and Circadin® 2mg prolonged release tablets (off-label). These should be prescribed and dispensed by brand to ensure that the correct intended product is supplied to the patient. Melatonin is not included in the LJF for adults. The LJF recommends no pharmacological treatment as first choice for insomnia, and zopiclone as second choice.

Specialist feedback from Paediatrics & Child and Adolescent Mental Health Service (CAMHS)

Sleep disorders are common in children with sensory deficits, including visual impairment, some learning disabilities, autistic spectrum disorder (ASD) and ADHD.

There is growing recognition of these disorders, and increasing rates of diagnosis. Despite good sleep hygiene a significant number of patients are particularly prone to sleep disturbance either intermittently or over a longer period, and this has resulted in increased prescribing of melatonin.

Local clinical experience has demonstrated that melatonin improves sleep cycle for approximately 50 per cent of children.

A local audit showed that most families with children who have neurodevelopmental difficulties including ASD found melatonin to be beneficial.

If melatonin is not effective it is discontinued after three months.

Reference

1. National Institute for Health and Care Excellence, Sleep disorders in children and young people with attention deficit hyperactivity disorder: melatonin ESUOM2. Evidence summary: unlicensed or off-label medicine, January 2013. http://publications.nice.org.uk/esuom2-sleep-disorders-in-children-and-young-people-with-attention-deficit-hyperactivity-disorder-esuom2 [Accessed 08/10/2014]

Flu prevention

From October 2014 the annual flu vaccination is to be offered to the following groups[1]:

- All pre school children over 2 years – intranasal Fluenz® Tetra
- All primary school children up to 11 years – intranasal Fluenz® Tetra
- All pregnant women (at any stage)
- All adults over 65 years
- All children and adults in clinical at risk groups
- Carers
- Health and social care staff

Reference:

1. NHS Education for Scotland, Extension of the Seasonal Flu Vaccination Programme to Children aged 2 to 17 years. www.nes.scot.nhs.uk/education-and-training/by-theme-initiative/public-health/health-protection/seasonal-flu.aspx [Accessed 08/10/2014]

Thanks to Ms Lorna Willocks, Consultant in Public Health, for contributing this article.

Adrenaline auto-injectors: MHRA issue advice for patients

The MHRA recently issued advice on the use of adrenaline auto-injectors.[1,2] An intramuscular injection of adrenaline in the outer thigh is the treatment of choice for someone having an anaphylactic reaction.[3] If in doubt about severity, or if previous reactions have been severe, the individual should use an adrenaline auto-injector.

Advice for healthcare professionals:

- Adrenaline for allergic emergencies should be prescribed by brand name to ensure that the patient gets the device that they have been taught to use.[4]
- Ensure that patients and their carers have been trained to use the particular auto-injector that they have been prescribed.
- Encourage patients with allergies to practise using a trainer device (free from the manufacturers' websites).

Advice to give to patients with allergies and their carers:

- Carry two adrenaline auto-injectors at all times.
- Use the auto-injector at the first signs of a severe allergic reaction.
- Take the following actions immediately after every use of an adrenaline auto-injector:
    1. Call 999 and state 'anaphylaxis', even if symptoms are improving.
    2. Lie flat with the legs raised. Those with breathing difficulties may sit up, to make breathing easier.
    3. Seek help immediately after using the auto-injector and remain with the patient while waiting for the ambulance.
    4. If the patient does not start to feel better, the second auto-injector should be used 5 to 15 minutes after the first.
- Check the expiry date of the auto-injectors and obtain replacements before they expire. Expired auto-injectors will be less effective.

References

1. Adrenaline auto-injector advice for patients. Drug Safety Update volume 7 issue 10, May 2014: A2. Medicines and Healthcare products Regulatory Agency. www.mhra.gov.uk/home/groups/dsu/documents/publication/con418529.pdf [Accessed 08/10/2014]
2. Information on adrenaline auto-injectors to give to people with allergies and their carers. Medicines and Healthcare products Regulatory Agency. May 2014. www.mhra.gov.uk/home/groups/dsu/documents/publication/con418524.pdf [Accessed 08/10/2014]
3. Resuscitation Council (UK): Emergency treatment of anaphylactic reactions. January 2008. www.resus.org.uk/pages/reaction.pdf [Accessed 08/10/2014]
4. Lothian Joint Formulary website www.ljf.scot.nhs.uk

Preventing harm from oral oxycodone medicines

Increasing numbers of patient safety incidents involving oral oxycodone medicines have been reported to the Board Controlled Drugs Accountable Officer Teams across Scotland. Practitioners who prescribe, dispense and administer oxycodone medicines should be aware of the following checklist to promote safer use. The specialist pain or palliative care team should be consulted for advice in cases of complex pain management.

- ☑ Oxycodone should only be used as a second-line strong opioid, if morphine is unsuitable or not tolerated.
- ☑ Check for therapeutic duplication of strong analgesics, e.g. two different routes of administration. The previous route of administration may not have been cancelled.
- ☑ If the patient was previously taking another opioid analgesic use a locally or nationally approved dose conversion chart to accurately determine the equivalent daily dose of oxycodone. An opioid conversion table is included in SIGN 136 Management of Chronic Pain, Annex 4.
- ☑ Use the appropriate medicine formulation. There are immediate release, short duration (e.g. Oxynorm®) and modified release, long duration (e.g. OxyContin®) oxycodone products.
- ☑ Use extreme caution with any oxycodone high strength or concentrate product.
- ☑ 'As required' oxycodone should have clear guidance on the frequency of administration.
- ☑ Safely calculate dose increases (for oxycodone in adult patients, not normally more than 50% higher than the previous dose).

Key messages

- There are **significant risks of overdose** when a fast acting product of short duration is used in error for the slow acting, longer duration products.
  - **Confirm the formulation and dose are appropriate.**
- There are **significant risks of overdose** if a high strength, concentrate product is used in error for a normal strength product.
  - **Confirm the use of any oxycodone high strength or concentrate product is appropriate.**

REMEMBER!

IMMEDIATE RELEASE

Dosage interval:

- **EVERY 4 TO 6 HOURS**
- **WHEN REQUIRED**
- **HOURLY – in some settings**

Brands include:

- **Oxynorm®**
- **Shortec®**
- **Lynlor®**

MODIFIED RELEASE

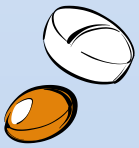
Dosage interval:

- **TWICE A DAY**

Swallow whole; DO NOT cut, crush or chew

Brands include:

- **OxyContin®**
- **Longtec®**
- **Dolocodon® PR**



Thanks to Ms Judie Gajree, Lead Pharmacist, Controlled Drugs Governance Team, for contributing this article.

Supplement: Recent SMC and Lothian Formulary Committee Recommendations

The supplements can be accessed via the LJF website www.ljf.scot.nhs.uk in 'Prescribing Bulletins'.

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