PostScript Acute

Issue 1, July 2010 • Produced by NHS Greater Glasgow & Clyde Medicines Information Service

Welcome to the first edition of PostScript Acute. This is the newest member of the PostScript family. It aims to provide important information on medicines to healthcare professionals within NHSGGC Acute care. It is anticipated that the format will develop over time and any feedback is encouraged. Information included is specific to the use of medicines in the adult setting.

1. Changes to Prescribing Practice in Primary Care – Implications for Acute

The Primary Care Prescribing Management Group has agreed the rational prescribing indicator scheme for 10/11. The indicators as in previous years are selected based on the potential to generate the greatest prescribing efficiencies for NHSGGC without compromising patient care. Several are the same as in previous years. The key ones to highlight are:

- **Ferrous fumarate** to be the oral iron preparation of choice and replace ferrous sulphate. **It is the most cost effective iron preparation** and has the potential to save NHSGGC £127K per annum.
- **Vitamin B Co Strong removed from the Formulary** following a review of evidence for use in chronic alcoholism. The dose of thiamine is insufficient in this preparation for this indication. Now, thiamine (100mg three times a day) only is recommended.
- **Prednisolone EC no longer to be prescribed.** There is no evidence that EC preparation provides any significant clinical advantage over standard prednisolone. Potential to save NHSGGC £466K per annum.

To realise these savings, primary care require the support of Acute care colleagues. Please remember the above when reviewing / prescribing these preparations.

NHSGGC Prescribing initiatives …to realise these savings, primary care require the support of Acute care colleagues.

2. Antimicrobial Prescribing Tips

Point prevalence audits conducted across NHSGGC have highlighted common violations from the NHSGGC infection guidelines. The top 3 include:

1. Amoxicillin continues to be prescribed as empirical therapy for UTIs – up to 70% may be resistant

   guideline does not include amoxicillin as an option for lower urinary tract infection in women

   recommend nitrofurantoin or trimethoprim for 3 days

2. Flucloxacillin and benzylpenicillin / penicillin dual therapy continue to be prescribed for cellulitis

   mild cellulitis – flucloxacillin monotherapy for 7 days is adequate

   moderate to severe cellulitis – guideline states flucloxacillin +/- gentamicin

3. Clarithromycin and amoxicillin or co-amoxiclav dual therapy continue to be prescribed for exacerbation of COPD

   guideline states monotherapy with amoxicillin or clarithromycin or doxycycline or co-trimoxazole for 5 days

3. IV Paracetamol – Risk of Hepatic Damage

(update to Postscript Safety 4 bulletin Jan 09)

There are significant patient safety risks attached to the use of IV paracetamol.

Failure to reduce the dose appropriately may result in paracetamol-induced liver toxicity. This could lead to hepatic failure and death.

This article highlights information to minimise this risk. There is evidence within NHSGGC that inappropriate prescribing and administration continues despite attempts to raise awareness.

IV Paracetamol

There continue to be reports of inappropriate use of IV paracetamol. Please be extra vigilant when reviewing, prescribing and administering this medicine.

In June 2010, the Rehabilitation and Assessment Directorate and Emergency Care and Medical Services Directorate withdrew the product from routine use across all of its clinical areas, including Accident and Emergency Departments, following a review of the risks associated with use. Other directorates are also reviewing use.

Staff prescribing or administering IV paracetamol in areas where it is still approved for use should ensure they are familiar with the following information.

IV Paracetamol Key Prescribing Notes

- IV paracetamol is generally no more effective than oral paracetamol but potentially more hazardous.
- IV paracetamol is indicated only for the short-term treatment of moderate pain, especially following surgery, and for the short-term treatment of fever, when administration by the intravenous route is clinically justified. Patients should be switched to an oral analgesic as soon as this route of administration is possible.
- The manufacturer's Summary of Product Characteristics (SPC) has recently been amended to emphasise the need for dose adjustment in selected patient groups.
- **Doses higher than those recommended entail the risk of very serious liver damage**.
- Assess risk factors and avoid or reduce dose as appropriate (see dosing section).
- Patient weight must be recorded on the Kardex.
- Check for additional paracetamol preparations prescribed (eg co-codamol) including all sections of kardex – as required section, single prescription section, nurse prescription section etc
- Switch to oral/nasogastric/rectal as soon as possible – avoid prescribing indefinitely.
- Do NOT prescribe as oral/IV.

IV Paracetamol Key Administration Notes

- Ensure no other paracetamol preparations have been administerd e.g. co-codamol before administration.
- Use the minimum vial size for the dose required (500mg or 1g available).
- Remove any excess dose from the vial before administration (to prevent the whole vial being administered inadvertently once the infusion has been set up).
- Infuse over 15 minutes. Drug already in solution, no further dilution required.
- Glass vial – requires careful monitoring particularly towards the end of infusion – risk of air embolism (special care with central lines).

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Adult IV Paracetamol Dosing and Risk Factors

- Low weight (≤ 50kg) or renal impairment (CrCl ≤ 30ml/min) dose reduce using the tables below.
- Maximum daily dose of IV paracetamol must NOT exceed 3g in patients with:
  - hepatocellular insufficiency*
  - chronic alcoholism
  - chronic malnutrition
  - dehydration

  * note IV paracetamol is contra-indicated in **severe** hepatocellular insufficiency
- Caution / reduce dose in patients:
  - receiving chronic enzyme inducer treatment e.g. carbamazepine, phenytoin, phenobarbital (phenobarbitone), rifampicin, St John's Wort (over-the-counter herbal remedy)
  - with other risk factors for glutathione depletion e.g. cystic fibrosis, HIV, malnutrition

IV Paracetamol

Reduce or alter the dose in high risk patients including patients with:

- low body weight
- renal impairment
- hepatic impairment.

Table 1 – Adult IV Paracetamol dosing and risk factors

Patient group	Dose	Dosage interval	Maximum daily dose
Adults > 50kg	1g up to four times a day	4 hours	4g
Adults ≤ 50kg (see Table 2 below)	15mg/kg up to four times a day (see Table 2 below)	4 hours	60mg/kg without exceeding 3g
Renal impairment with creatinine clearance ≤ 30ml/min	As above, depending on weight	6 hours	As above, depending on weight

Table 2 – IV Paracetamol adult or adolescent dose for patients ≤ 50kg

Weight (kg)	Dose (mg)	Volume (ml)
30-34	500	50
35-39	550	55
40-44	650	65
45-50	700	70

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IV Paracetamol – Management of overdose

- If inadvertent overdose is given refer to TOXBASE (www.toxbase.org. – password required) and contact National Poisons Information Service for advice specific to IV paracetamol – do not extrapolate information on managing oral paracetamol overdose
- Continue to report any incidents relating to IV paracetamol use via Datix
- IV paracetamol is a black triangle medicine and problems with its use should be reported to the MHRA via the Yellow Card system as appropriate

IV Paracetamol – Further Information

More information on IV paracetamol prescribing can be found in the NHSGGC Therapeutics Handbook or the Summary of Product Characteristics.

Although there is no specific advice on the dose of **oral** paracetamol in adults with low body weight or renal / hepatic impairment, a similar dosage reduction for paracetamol tablets in these patients should be considered.

IV Paracetamol – Medicine use evaluation

Full and summary reports, PowerPoint Presentation and audit tool available on StaffNet: Info Centre / GGC Formulary / Formulary Reports.

Future issues

This publication is also available on StaffNet. The first 2 editions will be available in paper copy also.

4. Guideline News

Two new NICE clinical guidelines published in March 2010 (refer to www.nice.org.uk)

CG 96 Management of neuropathic pain

CG 94 Management of unstable angina and NSTEMI

SIGN Guideline Number 116 Management of diabetes (March 2010) (refer to www.sign.ac.uk)

The guideline makes recommendations on the use of the newer antidiabetic agents in patients with type 2 diabetes. These recommendations are in line with the NHSGGC diabetes guideline (www.staffnet.ggc.scot.nhs.uk). Patients can be treated with the dipeptidylpeptidase-4 (DPP-4) inhibitors (sitagliptin, vildagliptin or saxagliptin) as second line therapy if metformin or a sulphonylurea have not led to targets being met. The DPP-4 inhibitors offer another alternative second line option to sulphonylureas or thiazolidinediones (rosiglitazone, pioglitazone) and are particularly useful if hypoglycaemia or weight gain are of concern.

Produced by NHS Greater Glasgow & Clyde Medicines Information Service
Telephone 0141 211 4407
Fax 0141 552 8170
email ng.medinfo@ggc.scot.nhs.uk

Designed by Medical Illustration Services
MIS • 228643