Update on management of paracetamol overdose

Intravenous acetylcysteine is a highly effective antidote in patients at risk of hepatotoxicity following paracetamol overdose. Provided it is administered within eight hours of the overdose, acetylcysteine therapy prevents severe hepatic damage and death in almost all cases.

Previously, different thresholds for treatment with acetylcysteine have been used in the UK, depending on the presence or absence of risk factors (for example starvation and chronic alcohol use). Treatment with acetylcysteine was recommended at a lower plasma paracetamol concentration in patients with risk factors than in those without risk factors.

Over the last year, the Commission on Human Medicines (CHM) reviewed current practice in the management of paracetamol overdose. In particular it examined the current risk-based treatment approach with acetylcysteine and recommended a number of changes and recommendations which are summarised below:

1. All patients with a plasma paracetamol concentration equal to or greater than 100 mg/L at four hours after an acute single overdose of paracetamol (over one hour or less) should be treated with acetylcysteine.

2. Intravenous acetylcysteine should be administered to all patients where there is any ambiguity over the time of ingestion of paracetamol and also where a staggered overdose has been taken. A staggered dose is interpreted as one that is taken over a period greater than one hour.

The judgement of what is an overdose for any particular patient is determined by clinical judgement.

3. Increase infusion time of acetylcysteine loading dose from 15 minutes to one hour in the hope of reducing the risk of anaphylactoid reactions, which are common and dose-related.

4. Patients considered at risk of anaphylactoid reactions (atopy, bronchospasm, asthma or a previous reaction) should be administered prophylactic medication such as antihistamines to reduce adverse reactions.

A previous anaphylactoid reaction to acetylcysteine is not a contraindication if the patient requires treatment.

5. The manufacturer should:
   - provide clearer weight-based dosage guidance for acetylcysteine and infusion bag labels
   - simplify the dosage regimen for children by providing doses and infusion volumes in the product literature
   - provide a larger vial size of acetylcysteine in future

6. Patients, family and carers should be involved in decision making about treatment and educated about symptoms of hepatotoxicity. If discharged without the need for acetylcysteine treatment, patients should be fully informed to return urgently if they notice any symptoms of liver toxicity, and be given written information.

Future research in areas such as biochemical markers and pharmacogenomics would be beneficial.

NPIS has been working with the MHRA over the last few months towards smooth implementation of the CHM’s recommendations. Once these recommendations were published they were promptly incorporated into the TOXBASE® entries.
New and updated during Aug & Sep 2012

**New TOXBASE® monographs included:**

- Acitretin in Pregnancy
- Melia azedarach
- Adapalene in Pregnancy
- Methasterone
- Balista
- Milk thistle
- Brilique
- Palonosetron
- Caffeine Citrate
- Pepper oil
- Desunin
- Petitgrain oil
- Dificlir
- Radiation
- Dragon & Dragon Gold
- Silicone Breast Implants in Pregnancy

**Updated TOXBASE® monographs included:**

- Amfetamines in Pregnancy
- Amisulpride in Pregnancy
- Scabies in Pregnancy
- Bisphosphonates in Pregnancy
- Schefflera species
- Citalopram in Pregnancy
- Sertraline in Pregnancy
- Dipipanone
- Snuff
- Granisetron
- Sorbus aucuparia
- Head Lice in Pregnancy
- Tetracaine
- Ondansetron
- Palmarosa Oil

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**Vacancy - Advanced Fellowship in Clinical Toxicology**

**Closing date: 14 November 2012**

This one year fellowship, based in Newcastle, funded by the Health Protection Agency and linked to the National Poisons Information Service, has been advertised. The fellowship offers a unique training opportunity for a specialty registrar interested in the management of patients with poisoning. It would be suitable for SpRs in Clinical Pharmacology and Therapeutics. Satisfactory completion of the fellowship will meet the requirements of the advanced specialist area module in clinical toxicology. The fellowship would, however, also be suitable as out of programme experience for trainees from other disciplines, including Acute Internal Medicine (suitable for Acute Internal Medicine Specialist Skills training), Emergency Medicine, Occupational Medicine and Paediatrics.

Further details, including a job description and person specification, can be found at [http://www.jobs.nhs.uk/cgi-bin/vacdetails.cgi?selection=912969705](http://www.jobs.nhs.uk/cgi-bin/vacdetails.cgi?selection=912969705)

Please note that funding is available for 5 years in the first instance and a single one year appointment will be made annually over that period. Those who may not be able to apply this year may wish to consider this opportunity for a future year. Anyone interested in the fellowship is welcome to get in touch with Professor Simon Thomas (simon.thomas@newcastle.ac.uk) to discuss further.

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The 2011/12 NPIS annual report is now available on TOXBASE® (General info tab, under Newsletters and publications).

Evidence of the value of our services to NHS healthcare professionals includes the growing volume of clinical contacts, especially through NPIS internet resources, and the excellent results of user feedback surveys. Increasing demand for statistical information collected by the NPIS demonstrates the value of this resource for health surveillance purposes.

If you are no longer the TOXBASE® contact person for your practice or unit we would be grateful if you could let us know:

Phone 0131 242 1381/1383

E-mail mail@toxbase.org

If you do not wish to receive this newsletter in future please send an e-mail with the word unsubscribe in the header to mail@toxbase.org

The TOXBASE® app is now available from the Apple store for iPhone and iPad.

UK NHS* / HPA*: users: access the mobile version of the full TOXBASE® database

* to gain full access you must enter your professional e-mail address and professional registration details during the registration process

Non NHS/HPA and non-UK users: access a selection of more than 1000 of the most frequently used toxicology monographs, teratology monographs and nursing guides on TOXBASE®

Subscription costs £6.99 annually

This charge ensures that app development and maintenance costs in the future can remain cost neutral.

The app will launch on Android in the coming months.

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**TOXBASE® is administered from NPIS Edinburgh, Royal Infirmary of Edinburgh**

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