Use of an Anaphylaxis Care Bundle to Improve Management in the Emergency Department

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Bayview Suite
Background

NICE guidance on anaphylaxis (Dec 2011) emphasises 5 main domains:
• Precise documentation.
• Timely tryptase sampling.
• Observation period.
• Safe discharge provision.
• Speciality follow up arrangements.

❖ Poor compliance was highlighted in a departmental audit of adult cases in 2012.
❖ Repeat audit 2015 demonstrated similar findings.
❖ An adult anaphylaxis care bundle was developed in response.

Objective:
To evaluate the impact of this bundle on departmental performance in the management of adult anaphylaxis.
ANAPHYLAXIS

DISCHARGE CARE PATHWAY FOR ALL ADULT PATIENTS TREATED FOR PROBABLE ANAPHYLAXIS

Has patient been formally diagnosed with anaphylaxis at UHS ALLERGY CLINIC previously?

NO

Request TRYPITASE on admission bloods (ENSURE POSSIBLE TRIGGER, TIME OF EXPOSURE AND TIME OF SYMPTOM ONSET ARE RECORDED ON ICS)

NO

Send second TRYPITASE 90 mins after admission sample

YES

Does patient have history of delayed BIPHASIC REACTIONS (>12 hours)?

NO

OBSERVE for 6-12 hours from onset of symptoms on ED Obs ward

YES

O/W senior

Consider MAU

NO

After 6-12 hours have symptoms completely settled?

YES

Offer patient information leaflet (found in BARN or on intranet)

NO

Prescribe 2 Epipens (if patient doesn’t have them already) including verbal AND written instructions in use

REFER TO UHS ALLERGY CLINIC

Ask reception staff to fix ED notes and referral form to 02381 204965

Ensure the following are documented:

- Possible or known triggers
- Symptoms/signs
- Time of exposure to trigger
- Time of onset of symptoms

DISCHARGE
WHAT IS ANAPHYLAXIS?

Anaphylaxis is a severe form of allergic reaction. It is estimated that there are between 1 and 3 cases of anaphylaxis in every 10,000 people and it is more common in children and young adults. It can be life threatening if it is not recognised and treated quickly.

Common triggers include:

- Food – e.g. nuts, eggs, shellfish or fruit
- Bee or wasp stings
- Medicines – e.g. antibiotics or pain killer

Sometimes no cause is found in which case it is termed “idiopathic” anaphylaxis.

WHAT ARE THE SYMPTOMS?

Symptoms of anaphylaxis usually occur within a few minutes of being exposed to the trigger. Common symptoms include:

- A very itchy and raised blotchy rash (called urticarial)
- Lip, tongue and/or eyelid swelling
- A hoarse voice
- A tight or wheezy chest, difficulty breathing
- Feeling faint or passing out
- Vomiting or abdominal pain
- Agitation or anxiousness

HOW CAN I AVOID HAVING ANAPHYLAXIS?

If you know or think you know what triggered your anaphylaxis then try and avoid it.

If you are/may be allergic to a medication then always inform doctors, nurses and pharmacists before you are prescribed or buy any medication.

If you are/may be allergic to a type of food then always read the ingredients on the packet or ask staff in a restaurant to ensure food you are about to eat does not contain the trigger.

WHAT SHOULD I DO IF I HAVE ANAPHYLAXIS AGAIN?

If you think you are having another anaphylactic reaction then you need to act quickly.

You should have been discharged with 2 adrenaline auto-injectors (EpiPen®). These contain adrenaline which is the best treatment for anaphylaxis and might save your life. If your symptoms include tongue or throat swelling, difficulty breathing or feeling faint then use your EpiPen® and call 999 immediately.

The nurse or pharmacist giving you the EpiPen® should show you how to use it and may have allowed you to practice with a training device. Below are instructions on how to use an EpiPen®. Instructions are also on the EpiPen® packaging and you can visit http://www.epipen.co.uk/ for further information and a demonstration video. Please tell your friends and family about your anaphylaxis episode and show them about when and how to use an EpiPen®.

WHAT HAPPENS NEXT?

If you have not already been seen at the University Hospital Southampton allergy team, you will be referred to them. You should receive an appointment through the post within the next 18 weeks – if not, please contact 02380 20 8790 or 02380 204001 to chase this appointment.

The doctors and nurses at the allergy clinic will ask you some more questions about this episode and any others like this that you have experienced in the past. It is important that you take any medication or food wrappers (with the ingredients list) of food that you think may have caused the reaction.

As well as looking at the results of the blood tests you’ve had in the Emergency Department, they may well decide to do some further blood tests or skin prick tests to try and identify the type of reaction you had and what may have caused it. If you take antihistamine tablets, you should try and stop these for 5 days before the appointment so skin prick tests can be performed. By the end of this clinic appointment you will have more information about the cause of your reaction and how to avoid and treat further attacks.
Dear Allergy Team

Many thanks for accepting this referral for the above patient who as presented to the Emergency Department at Queen Alexandra Hospital with probable ANAPHYLAXIS.

The following have been documented (ED clinician to tick if appropriate):

- Known or possible trigger of symptoms
- Time of exposure to trigger
- Time of onset of symptoms

Tryptase levels have been sent:

- At presentation
- 90 mins after presentation

They have been issued with the following:

- Patient information leaflet
- 2 x EpiPen®

Please fax this form plus A COPY OF THE PATIENT’S NOTES to the UHS allergy clinic secretaries on 02381 206965
Method

• A retrospective case note review of adult patients using departmental electronic records.

• Bundle introduced 14/12/15.

• Implementation supported by:
  • Educational sessions
  • Posters
  • Staff emails
  • Key stakeholder engagement – nurses, doctors, allergy clinic, biochemistry.

• Data collected pre and post bundle.

• Performance evaluated against the 5 domains of the NICE guidance.
## Results

<table>
<thead>
<tr>
<th></th>
<th>Pre Bundle Audit 08/07/15-13/12/15</th>
<th>Bundle 14/12/15</th>
<th>Post Bundle Audit 30/03/16-17/05/16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. DOCUMENTATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical features</td>
<td>29/29 (100%)</td>
<td></td>
<td>10/10 (100%)</td>
</tr>
<tr>
<td>Time of onset</td>
<td>17/29 (59%)</td>
<td></td>
<td>10/10 (100%)</td>
</tr>
<tr>
<td>Circumstances surrounding event</td>
<td>28/29 (97%)</td>
<td></td>
<td>10/10 (100%)</td>
</tr>
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<td><strong>2. TRYPASTE</strong></td>
<td></td>
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<tr>
<td>At presentation</td>
<td>4/29 (14%)</td>
<td></td>
<td>9/10 (90%)</td>
</tr>
<tr>
<td>After 1-2 hours</td>
<td>2/29 (7%)</td>
<td></td>
<td>9/10 (90%)</td>
</tr>
<tr>
<td>Advice re baseline tryptase</td>
<td>0/29 (0%)</td>
<td></td>
<td>9/10 (90%)</td>
</tr>
<tr>
<td><strong>3. OBSERVATION for 6-12 hours</strong></td>
<td>24/29 (83%)</td>
<td></td>
<td>10/10 (100%)</td>
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<td><strong>4. SAFE DISCHARGE</strong></td>
<td></td>
<td></td>
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<tr>
<td>Epipen</td>
<td>20/29 (69%)</td>
<td></td>
<td>9/10 (90%)</td>
</tr>
<tr>
<td>Patient information leaflet</td>
<td>12/29 (42%)</td>
<td></td>
<td>9/10 (90%)</td>
</tr>
<tr>
<td><strong>5. REFERRAL TO SPECIALIST SERVICE</strong></td>
<td>3/29 (10%)</td>
<td></td>
<td>9/10 (90%)</td>
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</tbody>
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Conclusion

• Following the introduction of the anaphylaxis care bundle, more adult patients presenting with anaphylaxis were managed in accordance with NICE guidelines.

• This could be adopted to improve compliance in other EDs.

• The roles of education, reinforcement and accessibility were important in achieving the improvements seen.

• On-going education is required to ensure sustainability of the improved performance.