NICE National Institute for Health and Care Excellence

Putting NICE guidance into practice

Guideline algorithm: diagnosis and management of drug allergy

Implementing the NICE guideline on drug allergy (CG183)

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SUSPECTED DRUG ALLERGY

ASSESSMENT

SIGNS AND ALLERGIC PATTERNS OF SUSPECTED DRUG ALLERGY WITH TIMING OF ONSET:

When assessing a person presenting with possible drug allergy, take a history and undertake a clinical examination. Use the following as a guide when deciding whether to suspect drug allergy:

Immediate, rapidly evolving reactions:

Anaphylaxis – a severe multi-system reaction characterised by:
- erythema, urticaria or angioedema **and**
- hypotension and/or bronchospasm

Urticaria or angioedema without systemic features

Exacerbation of asthma, for example with non-steroidal anti-inflammatory drugs (NSAIDs).

Onset usually less than 1 hour after drug exposure (previous exposure not always confirmed).

Non-immediate reactions without systemic involvement
- widespread red macules or papules (exanthem-like)
- fixed drug eruption (localised inflamed skin).

Onset usually 6–10 days after first drug exposure or within 3 days of second exposure.

Non-immediate reactions with systemic involvement
- drug reaction with eosinophilia and systemic symptoms (DRESS) or drug hypersensitivity syndrome (DHS) characterised by: widespread red macules, papules or erythrodema, fever, lymphadenopathy, liver dysfunction and eosinophilia.

Onset usually 2–6 weeks after first drug exposure or within 3 days of second exposure.

N.B. this list describes common and important presenting features of drug allergy but other presentations are also recognised.

Non-immediate reactions with systemic involvement (continued)

• Toxic epidermal necrolysis or Stevens-Johnson syndrome characterised by: painful rash and fever (often early signs), mucosal or cutaneous erosions, vesicles, blistering or epidermal detachment, red purpuric macules or erythema multiforme. *Onset usually 7–14 days after first drug exposure or within 3 days of second exposure.*

• Acute generalised exanthematous pustulosis (AGEP) characterised by: widespread pustules, fever and neutrophilia. *Onset usually 3–5 days after first drug exposure.*

• Common disorders caused, rarely, by drug allergy:
- eczema
- hepatitis
- photosensitivity
- vasculitis
- nephritis. *Time of onset variable.*

N.B. the above list describes common and important presenting features of drug allergy but other presentations are also recognised.

Be aware that the reaction is more likely to be caused by drug allergy if it occurred during or after use of the drug and:
- the drug is known to cause that type of reaction **or**
- the person has previously had a similar reaction to that drug or drug class.

Be aware that the reaction is less likely to be caused by drug allergy if:
- there is a possible non-drug cause for the person's symptoms (for example, they have had similar symptoms when not taking the drug) **or**
- the person has gastrointestinal symptoms only.

MEASURING SERUM TRYPTASE AFTER SUSPECTED ANAPHYLAXIS

After a suspected drug-related anaphylactic reaction, take 2 blood samples for mast cell tryptase in line with recommendations in Anaphylaxis (NICE clinical guideline 134).

Record the exact timing of both blood samples taken for mast cell tryptase: in the person's medical records **and** on the pathology request form.

Ensure that tryptase sampling tubes are included in emergency anaphylaxis kits.

MEASURING SERUM SPECIFIC IMMUNOGLOBULIN E

Do not use blood testing for serum specific immunoglobulin E (IgE) to diagnose drug allergy in a non-specialist setting.

NON-SPECIALIST MANAGEMENT

GENERAL MANAGEMENT

If drug allergy is suspected:
- consider stopping the drug suspected to have caused the allergic reaction and advising the person to avoid that drug in future
- treat the symptoms of the acute reaction if needed; send people with severe reactions to hospital
- document details of the suspected drug allergy in the person's medical records (see documenting and sharing information below)
- provide the person with information (see providing information and support to patients below).

NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (INCLUDING SELECTIVE CYCLOOXYGENASE 2 INHIBITORS)

Explain to people with a suspected allergy to a non-selective non-steroidal anti-inflammatory drug (NSAID) (and their family members or carers as appropriate) that in future they need to avoid all non-selective NSAIDs, including over-the-counter preparations.

For people who have had a mild allergic reaction to a non-selective NSAID but need an anti-inflammatory:
- discuss the benefits and risks of selective cyclooxygenase 2 (COX-2) inhibitors (including the low risk of drug allergy)
- consider introducing a selective COX-2 inhibitor at the lowest starting dose with only a single dose on the first day.

Do not offer a selective COX-2 inhibitor to people in a non-specialist setting if they have had a severe reaction, such as anaphylaxis, severe angioedema or an asthmatic reaction, to a non-selective NSAID.

Be aware that people with asthma who also have nasal polyps are likely to have NSAID-sensitive asthma unless they are known to have tolerated NSAIDs in the last 12 months.

REFERRAL TO SPECIALIST SERVICES

BETA-LACTAM ANTIBIOTICS

Refer people with a suspected allergy to beta-lactam antibiotics to a specialist drug allergy service if they:
- need treatment for a disease or condition that can only be treated by a beta-lactam antibiotic **or**
- are likely of to need beta-lactam antibiotics frequently in the future, (for example, people with recurrent bacterial infections or immune deficiency).

Consider referring people to a specialist drug allergy service if they are not able to take beta-lactam antibiotics and at least 1 other class of antibiotic because of suspected allergy to these antibiotics.

LOCAL ANAESTHETICS

Refer people to a specialist drug allergy service if they need a procedure involving a local anaesthetic that they are unable to have because of suspected allergy to local anaesthetics.

GENERAL REFERRAL

Refer people to a specialist drug allergy service if they have had:
- a suspected anaphylactic reaction (also see Anaphylaxis, NICE clinical guideline 134) **or**
- a severe non-immediate cutaneous reaction (for example, drug reaction with eosinophilia and systemic symptoms [DRESS], Stevens–Johnson Syndrome, toxic epidermal necrolysis).

NSAIDs

Refer people who need treatment with an NSAID to a specialist drug allergy service if they have had a suspected allergic reaction to an NSAID with symptoms such as anaphylaxis, severe angioedema or an asthmatic reaction.

GENERAL ANAESTHESIA

Refer people to a specialist drug allergy service if they have had anaphylaxis or another suspected allergic reaction during or immediately after general anaesthesia.

DOCUMENTING AND SHARING INFORMATION WITH OTHER HEALTHCARE PROFESSIONALS

Recording drug allergy status

Document people's drug allergy status in their medical records using 1 of the following:
- 'drug allergy'
- 'none known'
- 'unable to ascertain' (document it as soon as the information is available).

If drug allergy status has been documented, record all of the following at a minimum:
- the drug name
- the signs, symptoms and severity of the reaction (see signs and allergic patterns above)
- the date when the reaction occurred.

Documenting new suspected drug allergic reactions

When a person presents with suspected drug allergy, document their reaction in a structured approach that includes:
- the generic and proprietary name of the drug or drugs suspected to have caused the reaction, including the strength and formulation
- a description of the reaction (see signs and allergic patterns above)
- the indication for the drug being taken (if there is no clinical diagnosis, describe the illness)
- the date and time of the reaction
- the number of doses taken or number of days on the drug before onset of the reaction
- the route of administration
- which drugs or drug classes to avoid in future.

Maintaining and sharing drug allergy information

Prescriptions (paper or electronic) issued in any healthcare setting should be standardised and redesigned to record information on which drugs or drug classes to avoid to reduce the risk of drug allergy.

Ensure that drug allergy status is documented separately from adverse drug reactions and that it is clearly visible to all healthcare professionals who are prescribing drugs.

Check a person's drug allergy status and confirm it with them (or their family members or carers as appropriate) before prescribing, dispensing or administering any drug (see also providing information and support to patients opposite). Update the person's medical records or inform their GP if there is a change in drug allergy status.

Ensure that information about drug allergy status is updated and included in all:
- GP referral letters
- hospital discharge letters.

Carry out medicines reconciliation for people admitted to hospital in line with recommendations in Technical patient safety solutions for medicines reconciliation on admission of adults to hospital (NICE patient safety solutions guidance 1).

Documenting information after specialist drug allergy investigations

For recommendations on referral to specialist services see above.

After specialist drug allergy investigations, allergy specialists should document:
- the diagnosis, drug name and whether the person had an allergic or non-allergic reaction
- the investigations used to confirm or exclude the diagnosis
- drugs or drug classes to avoid in future.

PROVIDING INFORMATION AND SUPPORT TO PATIENTS

Discuss the person's suspected drug allergy with them (and their family members or carers as appropriate) and provide structured written information (see documenting new suspected drug allergic reactions opposite). Record who provided the information and when.

Provide information in line with the recommendations in Patient experience in adult NHS services (NICE clinical guideline 138).

Ensure that the person (and their family members or carers as appropriate) is aware of the drugs or drug classes that they need to avoid, and advise them to check with a pharmacist before taking any over-the-counter preparations.

Advise people (and their family members or carers as appropriate) to carry information they are given about their drug allergy at all times and to share this whenever they visit a healthcare professional or are prescribed, dispensed or are about to be administered a drug.

Providing information and support to people who have had specialist drug allergy investigations

For recommendations on referral to specialist services see above.

Allergy specialists should give the following written information to people who have undergone specialist drug allergy investigation:
- the diagnosis – whether they had an allergic or non-allergic reaction
- the drug name and a description of their reaction (see signs and allergic patterns above left)
- the investigations used to confirm or exclude the diagnosis
- drugs or drug classes to avoid in future
- any safe alternative drugs that may be used.

Explain to people in whom allergy to a drug or drug class has been excluded by specialist investigation that they can now take this drug or drug class safely and ensure that their medical records are updated.

This algorithm accompanies Drug allergy: diagnosis and management of drug allergy in adults, children and young people (NICE clinical guideline 183). It summarises the guideline recommendations and can be printed for ease of access and use.

Issue date: 2014

It is not NICE guidance.

Promoting equality

Implementation of the guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity and foster good relations. Nothing in the guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

National Institute for Health and Care Excellence

Level 1A, City Tower, Piccadilly Plaza, Manchester M1 4BT; www.nice.org.uk