NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

SCOPE

1 Guideline title

Drug allergy: diagnosis and management of drug allergy in adults and children

1.1 Short title

Drug allergy

2 The remit

The Department of Health has asked NICE: 'To produce a clinical guideline on Drug allergy: diagnosis and management of drug allergy in adults and children

3 Clinical need for the guideline

3.1 Epidemiology

a) Diagnosing a drug allergy is challenging, with considerable variation in service provision, practice and referral pattern. This can lead to under-diagnosis, misdiagnosis and self-diagnosis.

b) All drugs have the potential to cause side effects, also known as adverse drug reactions, but not all of these are allergic in nature; other reactions are caused by drug intolerance, idiosyncratic reactions and pseudo-allergic reactions.

c) The British Society for Allergy and Clinical Immunology (BSACI) defines drug allergy as an adverse drug reaction with an established immunological mechanism. However, the mechanism at presentation may not be apparent from the clinical history, and therefore, whether a drug reaction is allergic or non-allergic cannot always be established without investigation.

d) Drug allergy can be further defined as an immune-mediated hypersensitivity reaction to a medicinal product and may be divided into immunoglobulin E (IgE)-mediated (immediate onset) and non-IgE-mediated (delayed onset, usually involving T cells) reactions.

e) Adverse drug reactions can be divided into:

- predictable: resulting from a toxic effect of the drug (overdose or reduced excretion), side effects (low threshold to the undesirable pharmacological effects) or an interaction between drugs, **or**
- unpredictable: including drug intolerance (a lower than normal threshold to the action of the drug), idiosyncratic reactions (usually resulting from genetically determined metabolic or enzyme deficiency not expressed in normal situations), drug allergies (involving an immune reaction) and pseudoallergies (in which the clinical manifestations are similar to those of drug allergies but immune mechanisms have not been established).

f) There is no robust information on the prevalence or incidence of drug allergy alone in the UK population. Information is available for adverse drug reactions of which drug allergy is a subgroup, and anaphylaxis for which drug allergy is a potential cause.

g) The estimated incidence of drug allergy in primary care shows that the incidence in women is twice as high as that in men. The reason for this is unclear.

Adverse drug reactions

h) Analysis of observational data has estimated that 6.5% of all hospital admissions in England are because of adverse drug reactions. The Hospital Episode Statistics database for England, from 1996–2000 reports a lower figure of 0.083%. It is unclear what proportion is because of drug allergy.

Anaphylaxis

i) Available estimates suggest that approximately 1 in 1333 people in England have experienced anaphylaxis at some point in their lives. This figure represents all cases and all causes of anaphylaxis. The proportion of cases of anaphylaxis because of drug allergy or other causes (such as allergic reaction to food or an insect bite) was not estimated.

Mortality and morbidity

j) The BSACI guideline on drug allergy reported a UK study which estimated that 0.32% of serious adverse drug reactions were fatal. The guidance does not estimate what proportion of these hospital admissions, prolonged stays, or deaths were attributable to drug allergy.

k) The BSACI guideline reports that the most important risk factor for drug allergy is a history of previous reaction to the same or related compound.

3.2 Current practice

a) There is variation in referral patterns and in the management of drug allergies. There is also variation in geographical access to specialist allergy centres, as most of the centres are located in cities. The variation may relate to a lack of knowledge of available services or a lack of local provision of a drug allergy centre. Therefore, only a proportion of people are likely to be treated in specialist allergy centres whereas others are never referred and remain in primary care. Some people have their drug allergy managed within other disciplines. For example, cancer centres manage drug allergies related to their own treatment regimes.

b) The drugs that commonly cause drug allergies include: penicillins, other beta-lactam antibiotics, non-beta-lactam antibiotics, general anaesthetic agents (for example neuromuscular blocking agents), local anaesthetics, aspirins and non-steroidal anti-inflammatory

drugs (NSAIDs), angiotensin-converting enzyme inhibitors, and plasma expanders.

c) The investigation of a drug allergy includes:

- assessing previous history of drug reactions and allergies
- taking a blood tryptase test at the time of the allergic reaction
- performing a skin prick test, an intradermal test, a patch test and specific IgE testing (only available for a limited number of drugs)
- conducting a drug provocation test (controlled administration of a drug to diagnose drug hypersensitivity reactions).

d) Tests undertaken during an acute reaction may include:

- ureas and electrolytes, liver function test, full blood count, differentiated blood count, Coombs' test, antinuclear antibody, antineutrophil cytoplasmic, antibody erythrocyte sedimentation rate and C-reactive protein.
- urine microscopy
- electrocardiogram
- chest X-ray.

e) Treating an adverse drug reaction with a possible immunological cause (including drug allergy) includes identifying alternative drugs, drug avoidance and drug desensitisation.

f) Children are often labelled as having drug allergy which can lead to lifelong avoidance of certain drugs, particularly antibiotics. However, studies that performed skin prick test, intradermal test or oral challenge on children who had a plausible history of drug allergy showed that most (94%) were able to tolerate the drug.

This NICE guideline is needed to address the known and unknown variations in the diagnosis and management of drug allergies.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, ‘Further information’).

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 Population

4.1.1 Groups that will be covered

a) Adults (18 years and older), young people and children with suspected and confirmed drug allergy.

b) No patient subgroups have been identified as needing specific consideration.

4.1.2 Groups that will not be covered

a) None.

4.2 Healthcare setting

a) All settings where care is commissioned or provided by the NHS.

4.3 Clinical management

4.3.1 Key clinical issues that will be covered

a) Signs and symptoms of a drug allergy to identify possible drug allergy.

b) Documenting drug allergy.

c) Criteria for referral to a specialist service with competency in drug allergy.

d) Confirming or excluding drug allergy as a diagnosis. Consideration will be given to the use of local anaesthetics, beta-lactam antibiotics, hypersensitivity to NSAIDs in people with asthma and allergic reactions during general anaesthesia. All are considered to have a significant impact on patient care.

Note that guideline recommendations will normally fall within licensed indications; exceptionally, and only if clearly supported by evidence, use outside a licensed indication may be recommended. The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

e) Management strategies in non-specialist services (for example desensitisation, avoidance and safe alternatives).

f) Information and support needs of patients, carers and parents when appropriate.

4.3.2 Clinical issues that will not be covered

a) Other allergies (for example food allergies).

b) Treatment of the acute phase including anaphylaxis.

c) Investigation of allergies to individual drugs and populations (unless specified in included section).

d) Investigation of allergies to topical creams.

e) Treatment of non-allergic adverse drug reactions.

4.4 Main outcomes

a) 30 day Mortality.

b) Number of repeat drug allergic reactions (including patient reported episodes).

c) Length of hospital stay.

d) Acute admission and/or readmission into secondary care.

e) Number of contacts with healthcare professionals (for example with GP).

f) Inappropriate avoidance of drugs.

g) Health-related quality of life.

4.5 Economic aspects

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions or strategies. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see ‘Further information’).

4.6 Status

4.6.1 Scope

This is the consultation draft of the scope. The consultation dates are 3–31 October 2012.

4.6.2 Timing

The development of the guideline recommendations will begin in December 2012.

5 Related NICE guidance

- Anaphylaxis. NICE clinical guideline 134 (2011).
- Medicines adherence. NICE clinical guideline 76 (2009).
- Patient experience in adult NHS services. NICE clinical guideline 138 (2012).

6 Further information

Information on the guideline development process is provided in the following documents, available from the NICE website:

- 'How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS'
- 'The guidelines manual'.

Information on the progress of the guideline will also be available from the NICE website.