Pharmacological interventions to prevent allergic and febrile non-haemolytic transfusion reactions

NICE has developed the Cochrane Quality and Productivity (QP) topics to help the NHS identify practices which could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice

Summary

NICE summary of review conclusions

Pre-transfusion medication with paracetamol or hydrocortisone combined with diphenhydramine (not currently used as an antihistamine in the UK) is not supported by sufficient good quality evidence. Consideration could be given to using pre-transfusion medications only within the context of a research or audit project.

The 'Implications for practice' section of the Cochrane review stated:

'We found no evidence that pre-transfusion medication prevents non-haemolytic transfusion reactions (NHTR). This applies regardless of the patient's history of non-haemolytic transfusion reactions and whether or not they were transfused with leukodepleted blood products. This conclusion is based on three trials with moderate risk of bias. Practically, this implies the prescription of pre-transfusion medication is not justified, unless new evidence from a large high quality trial modifies this conclusion.'

Details of Cochrane review

Cochrane review title

Pharmacological interventions for the prevention of allergic and febrile non-haemolytic transfusion reactions

Citation

Martí-Carvajal AJ, Solà I, González LE, Leon de Gonzalez G, Rodriguez-Malagon N. Pharmacological interventions for the prevention of allergic and febrile non-haemolytic transfusion reactions. Cochrane Database of Systematic Reviews 2010, Issue 6. Art. No.: CD007539. DOI: 10.1002/14651858.CD007539.pub2

When the review content was assessed as up to date

12 August 2009

QIPP category

Medicines management

Relevant codes	OPCS	ICD10	HRG
	X32, X33 & X34		

Programme budget

Disorders of blood

Evidence

Relevance to the NHS

The Cochrane review found that current evidence from three randomised controlled trials indicates that pre-transfusion medication in any regimen does not reduce the risk of allergic and febrile non-haemolytic transfusion reactions. The review did not find significant differences in incidence of febrile reactions (fever with or without chills, chills with or without rigors) or mild allergic reactions (urticaria with or without pruritus).

The data from the included studies (462 participants) is inconclusive and differed in the following characteristics: pre-transfusion randomisation, participant population, study design, pre-transfusion medication composition, study country, blood product transfusion, history of transfusion reaction, measures of treatment effect, sample size and duplicate publication.

Relevant NICE guidance

No relevant NICE guidance was available at the time of publication (October 2011).

Potential productivity savings

Estimate of current NHS use

No information is available on the use of these drugs within the NHS

Level of productivity savings anticipated

A 500 mg dose of prophylactic, pre-transfusion paracetamol medication' costs 1p per patient.

A 50-mg dose of prophylactic, pre-transfusion hydrocortisone (Solu-Cortef) medication costs 46p per patient (100 mg vial cost 92p). Drug prices are based on the British National Formulary (BNF) 62.

Type of saving

Real cash savings will be achieved through reduced expenditure

Any costs required to achieve the savings

No additional resources required

Potential impact on quality of NHS care

Impact on clinical quality

Clinical quality will be improved by reducing the use of unproven therapies

Impact on patient safety

No significant impact on patient safety anticipated

Impact on patient and carer experience

Improved patient and carer experience anticipated

Likely ease of implementation

Time taken to implement

Can be achieved in the medium term: 3 months to 1 year

Healthcare sectors affected

Affects multiple organisations within the NHS, such as working across a health economy

Stakeholder support

Likely to get a mixed reception, such as staff understand and support the change, but patients affected are unhappy