

Febrile, Allergic and Hypotensive Reactions (FAHR) - Getting the diagnosis right

Background: Febrile and allergic reactions are among the commonest reactions to transfusion. Around 300 moderate-severe reactions are reported to SHOT each year (~15 per 100,000 components transfused) and mild reactions occur even more frequently. Challenges in management include **classifying** the type of reaction, judging its **severity** and if necessary, **investigating to exclude an alternative cause** (such as a haemolytic reaction or bacterial infection). It is vital that the patient is treated appropriately, both to manage their symptoms and enable transfusion to continue where reactions are mild.

SHOT data consistently show that 40% of these reactions are misclassified by the reporter, and 40-50% of patients with febrile reactions are inappropriately treated with an antihistamine and steroid.

“Reaction to transfusion” is not a single diagnosis requiring a uniform standard treatment!



This SHOT Bite includes:

- A guide to help frontline staff use the patient’s symptoms and signs to correctly classify and manage febrile and allergic reactions
- An illustrative case

Illustrative case



A 50 year old female with acute myeloid leukaemia on the haematology ward received a unit of platelets. At the end of the transfusion she developed rigors, nausea, tachycardia and chest pain.

Baseline observations: Temp 36.8, BP 117/70, Pulse 68, RR 18, SpO2 98%.
Post transfusion observations: Temp 37.4, BP 161/53, Pulse 115, RR 20, SpO2 100%.

She was treated with hydrocortisone and chlorphenamine and repeat group and screen was sent. This was reported as a mixed reaction.



Commentary:

This patient's small temperature rise was not sufficient to be considered a fever, but her symptoms were overwhelmingly inflammatory.

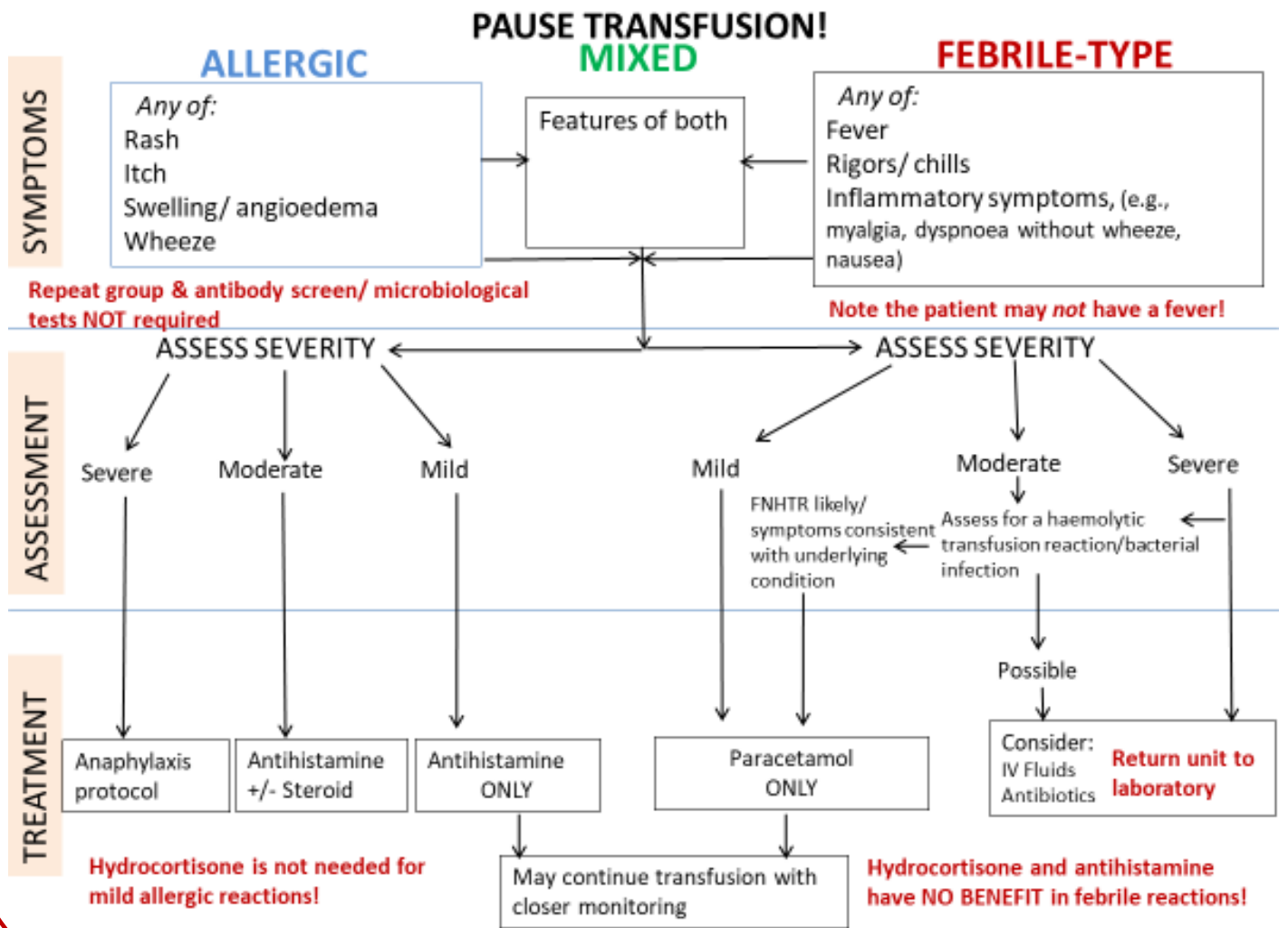
There were no allergic features and the SHOT expert reclassified this as a febrile-type reaction.

The use of chlorphenamine and hydrocortisone was inappropriate. In an immunocompromised patient, assessing for infection (both related to and unrelated to transfusion) would be important.





Any reaction that is moderate or severe should be reported to SHOT

Grading of severity of febrile, allergic, and hypotensive reactions and SHOT reporting criteria can be found in the SHOT definitions document which is reviewed and updated annually and can be accessed from this link <https://www.shotuk.org/resources/current-resources/>

Algorithm to help identify type of FAHR reaction and management



Key Messages

-  It is important to try to classify the type of reaction to be able to correctly investigate and treat. Follow local policy for transfusion reaction investigation, including returning the unit to the laboratory
-  In a febrile non-haemolytic transfusion reaction, laboratory investigations are expected to be normal. These are done to exclude alternative causes
-  Treat febrile reactions with paracetamol. Antihistamines and steroids are of no benefit, and could potentially cause harm
-  Pure allergic reactions are not associated with febrile type symptoms

See the BSH guidelines on Investigation and Management of Acute Transfusion Reactions for more detail on assessing severity and choice of investigations: <https://b-s-h.org.uk/guidelines/guidelines/investigation-and-management-of-acute-transfusion-reactions/>

SHOT FAHR cumulative data <https://www.shotuk.org/resources/current-resources/data-drawers/fahr-data-drawer-2/>