Advancing TACO

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What is a Definition?

- How can TACO be clinically described?
- What needs to be present to report a case?
- How can the level of diagnostic certainty be determined?
Description

An adverse outcome of transfusion characterised by respiratory distress as a result of pulmonary oedema following infusion of blood components… …due to excessive volume and/or infusion rate, and/or when pre-disposing co-morbidities are present.
Reporting Criteria

Key SHOT message

TACO must be suspected where there is respiratory distress that improves with treatment for circulatory overload (diuretics, morphine and nitrates). It is important to report these cases to SHOT.
CPKF and DISBT Definitions (Assessment Criteria)

Clinical Prioritisation of Key Features (SHOT, 2015)
- Respiratory distress
- Pulmonary oedema
- Positive fluid balance
- Evidence of volume intolerance (response to treatment for circulatory overload)

Draft ISBT (ISBT, 2014)
- Pulmonary oedema
- Enlarged cardiac silhouette
- Evidence of fluid overload (response to treatment / positive fluid balance)
- Increased BNP
- Raised MAP, PP, PWP, hypotension in cardiac collapse

Highly Likely = 3 or more, or respiratory distress + pulmonary oedema
Probable = respiratory distress + volume intolerance
Possible = respiratory distress + positive fluid balance

Definite = 2 or more primary features, or 1 primary and 2 supporting
Probable/Possible = 1 primary + presence of supporting features
Diagnostic Likelihood Assessment by Two Definitions
Problems with current reporting/assessment criteria

- Lack of universally agreed reporting and assessment criteria
- Lack of availability of diagnostics required by the assessment criteria – can exclude or reduce the diagnostic likelihood of some cases
- Inter-assessor variability
- Confounding co-morbidities and other factors – an inherently difficult diagnosis
Improving TACO diagnostic likelihood assessment

• International collaboration on revised reporting and assessment criteria – incremental steps

• Objective, standardised assessment which mitigates for confounding factors and inter-assessor variability

• TACO diagnostic assessment calculator
Reporting TACO to SHOT

Key Elements of your Report

Significant co-morbidities/risk factors: cardiac failure, renal failure, pulmonary pathology, liver failure, elderly, low body weight

Respiratory symptoms, vital sign observations including oxygen saturation (pre transfusion and at time of reaction)

CXR (pre transfusion and at time of reaction)
Pulmonary oedema and cardiac silhouette

Report the fluid balance, presence of peripheral oedema, concomitant fluids, significant weight change

Response to diuretic, morphine, nitrites (diuresis/improvement in respiratory status), other drugs
# Promoting Safe Clinical Practice

## TACO Checklist

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<th>Red Cell Transfusion for Non-Bleeding Patients</th>
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| ![Heart] | Does the patient have a diagnosis of ‘heart failure’ congestive cardiac failure (CCF), severe aortic stenosis, or moderate to severe left ventricular dysfunction?  
|   | Is the patient on a regular diuretic? |
| ![Lungs] | Is the patient known to have pulmonary oedema?  
|   | Does the patient have respiratory symptoms of undiagnosed cause? |
| ![Water] | Is the fluid balance clinically significantly positive?  
|   | Is the patient on concomitant fluids (or has been in the past 24 hours)?  
|   | Is there any peripheral oedema? |

## If ‘yes’ to any of the above

1. View the need for transfusion (do the benefits outweigh the risks)?
2. Can the transfusion be safely deferred until the issue can be investigated, treated or resolved?
3. Consider body weight dosing for red cells (especially if low body weight)  
   - Transfuse one unit (red cells) and review symptoms of anaemia  
   - Measure the fluid balance  
   - Consider giving a prophylactic diuretic  
   - Monitor the vital signs closely, including oxygen saturation
Thank You!