Update on ISBT International Survey on Transfusion-transmitted Bacterial Infections

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On behalf of the WPs on TTID and HV

International Survey on TTBI

- Rationale & construction of survey
- Demographics of respondents
- Blood supplier(s)
- Haemovigilance programmes
- Transfusion-transmitted bacterial infection (TTBI)
- Bacterial contamination of blood components
International Survey on TTBI

- Variability in definitions of TTBI

- Variability in approach to:
  - Initial investigations
  - Confirmatory testing
  - Reporting of events
  - Preventive measures

International Survey on TTBI

- Joint initiative of:
  - Haemovigilance WP
  - TTID WP

- Assessment of definitions and current practices in prevention, diagnosis, management and reporting

- Initial draft questionnaire with feedback from WP members

- Wide distribution of final questionnaire

- First survey results reported to WP at ISBT Congress in June 2013

- Additional contacts emailed December 2013
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Demographics of respondents

- 212 participants in 73 countries invited to participate
- 58 responses from 39 countries
- Good representation of countries & organisations
- Some responses joint submissions from members of the same organisation
International Survey on TTBI

Demographics of respondents

- 58 respondents
  - 51 medical
  - 7 non-medical
- 27 countries had more than 1 blood supplier
International Survey on TTBI

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International Survey on TTBI

Haemovigilance Programmes

Haemovigilance Programmes according to Regional/National and Voluntary/Mandatory

- No Haemovigilance Programme
- Regional Haemovigilance Programme
- National & Regional Haemovigilance Programme
- National Haemovigilance Programme

Number of Countries

0 2 4 6 8 10 12 14 16 18 20

International Society of Blood Transfusion
International Survey on TTBI

TTBI definitions

- Standard definition of TTBI available for:
  - 27/58 respondents from 17 countries
  - Australia
  - Belgium
  - Brazil
  - Canada
  - Finland
  - Germany
  - Japan
  - Jordan
  - Morocco
  - Netherlands (TRIP)
  - New Zealand
  - Portugal
  - Republic of Korea
  - South Africa
  - Switzerland
  - UK (SHOT)
  - USA (CDC)

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What clinical symptoms and signs might suggest or be consistent with a potential case of TTBI?
**International Survey on TTBI**

**TTBI:**

- Other symptoms / signs:
  - Nausea, vomiting
  - Abdominal pain
  - Diarrhoea
  - Oliguria, renal failure
  - Headache, encephalitis, meningitis
  - Jaundice
  - Myalgia, arthralgia
  - Cyanosis
  - Shock
  - Chest pain
  - DIC
  - Death

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**What tests are required / performed to investigate a suspected clinical case of TTBI?**
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Tests performed for investigation of a potential TTBI

- Culture of implicated component: 9
- Culture of any associated blood component prepared from: 13
- Blood culture of the recipient: 13
- Gram stain of implicated component: 12
- Blood group & antibody screen of recipient: 10
- Full blood count of the recipient: 10
- Haemolysis screen of the recipient: 7
- Chest X-ray of the recipient: 7
- Urine culture of the recipient: 7
- Molecular test (e.g., pulsed-field gel electrophoresis): 21
- Other: 13

Number of responses:

- Yes
- No
- Not answered

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- 25 / 37 do not routinely perform molecular tests
- Other tests performed:
  - Visual inspection (haemolysis)
  - CRP
  - Antibiotic testing
  - Serotyping
  - Pulsed-field electrophoresis
  - Sequence comparisons of isolates
  - Verax PGD testing
  - Exclude other transfusion reactions

- Imputability for TTBI assigned:
  - Locally (20 / 46 respondents)
  - HVP (9 / 46 respondents)
  - Joint hospital and HVP (13 / 46 respondents)
  - Other (2)
  - Not specified (2)
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For the purpose of reporting to HV Programmes:

- 32 / 40 respondents differentiate between suspected and confirmed cases
  - 30 / 32 report suspected but not confirmed cases to their HV Programmes
  - 38 / 40 respondents report confirmed cases to their HV Programmes

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What measures are in place at the time of blood collection / preparation to reduce the risk of TTBI?

![Bar chart showing measures at the time of blood collection / preparation to reduce risk of TTBI]
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Other measures to reduce bacterial contamination:
- CRP of donors
- Pathogen reduction technology
- Short expiry
- Visual inspection
- Bacterial surveillance of PC / outdated PC
- Random culture of blood products

Routine Screening for Bacterial Contamination of Blood Components with a Sample Taken for Testing Prior to Release
International Survey on TTBI

Summary

• International survey providing a snapshot of practices around the world
• Variation in TTBI definitions used
• Variation in practices for prevention, management and investigation of TTBI
• Summary of different definitions
• Basis for possible standardised definition in the future