

Irradiated blood:

A patient case study

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THE CASE



Multiply co-morbid, including:

- allograft, aged 5 years, for **relapsed ALL**
- multiple **neurosurgical** procedures
- **PEG-fed** and dependent for daily living

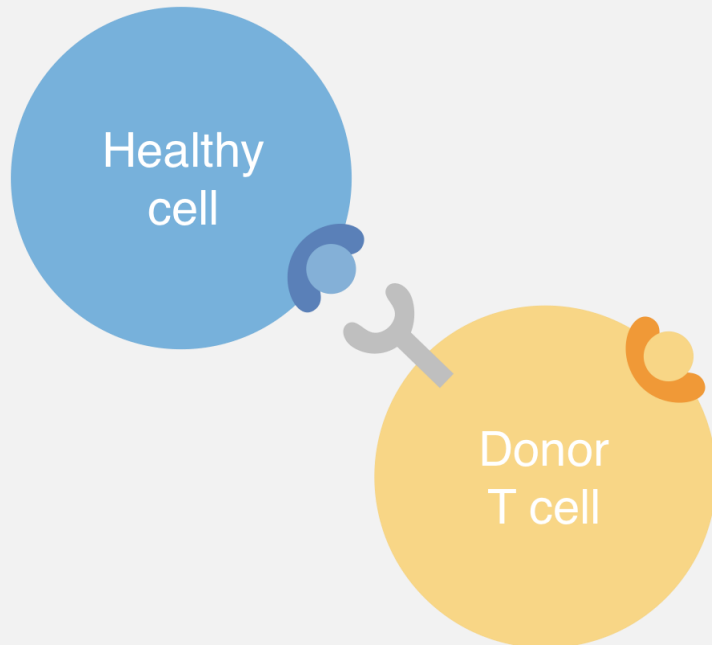
Primarily managed in Oxford

- but Summer 2018, **RBCs** from
 - Wexham Park (May; **non-irradiated**)
 - Royal Berkshire (July; **irradiated**)



THE NEED FOR IRRADIATION

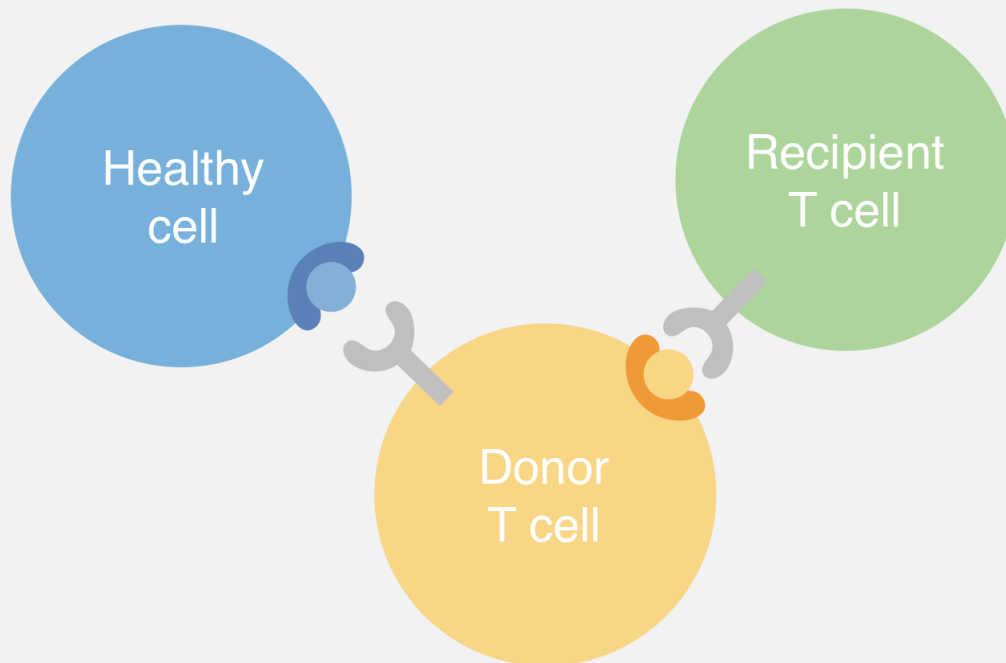
Transfusion-associated graft versus host disease (TA-GvHD)



TA-GvHD comprises a constellation of features:

- skin, gut and liver abnormalities
- **plus** profound bone marrow hypoplasia
- occurring 1 to 2 weeks post-transfusion
- mortality approximately 90%
- treatment is immunosuppressive / allograft

WHY IS TA-GVHD SO RARE?



Rupert Billingham outlined risk factors:

- competent immune cells in graft
- graft v. recipient antigen mismatch
- recipient cannot mount defence

Classically 'at risk' Haematology patients

- Hodgkin's lymphoma
- immunosuppressed post-allograft
- following purine analogues; Campath

TO IRRADIATE OR NOT?!

Wexham Park Hospital protocol – irradiated products:

- from initial conditioning chemo/radiotherapy
- whilst patient on GvHD prophylaxis / until Lymph > 1
- chronic GvHD present

Aligns with BSH guideline (2010)

- but differs from Royal Berkshire (and Oxford)
- where practice is to give life-long irradiated post-allograft

PRACTICE-CHANGING?

We will update our policy at the next review date:

- we will now give life-long irradiated blood products

Whole episode reflects wider uncertainty:

- role of leucocyte depletion technology (introduced 1999)
- most TA-GVHD cases occur in patients not 'at-risk'
 - stealth HLA (recipient sees as 'same', donor sees as 'other')

SUMMARY

- TA-GVHD – rare and often fatal transfusion complication
- Policies tend towards over-cautious (?poor understanding)
- Consolidating policies across site should be pre-emptive
- No evidence of TA-GVHD in our case

BIBLIOGRAPHY & THANKS

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