NHS
Blood and Transplant

AIHA – Balancing Clinical Risk

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Caring Expert Quality

Balance of Clinical Risks in AIHA

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- **How urgently need blood?**
  - Haemoglobin (Hb) may be very low → patient risk of complications:
    - e.g. cause angina, MI.
    - More risk if patient has underlying cardiac, respiratory, vascular disease, etc.
  - Hb may be dropping **quickly** – so cannot compensate fast enough.
  - Need urgent procedure, which needs higher Hb, e.g. surgery for bleeding/fractured hip/acute abdomen, etc.

Summary:

- Underlying condition or AIHA itself may kill them or cause severe harm (e.g. organ failure) if there is a delay in getting blood.

Balance of Clinical Risks in AIHA

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- **How much concern over incompatible blood?**
- Mostly risk of delayed haemolytic transfusion reactions [DHTR]
  - less often, acute haemolytic transfusion reaction [AHTR].
- Ab causes haemolysis (as “extravascular”) in 5-10 days after transfusion.
  - ↓ Hb, ↑ LDH, ↑ bili, spherocytes on film, ↓ haptoglobin, haemoglobinuria (if intravascular haemolysis).
- Free Hb toxic to renal tubules → renal failure (acute kidney injury).
  - Monitor U&E, Creatinine.
  - Worse if renal function already compromised, e.g. diabetic, ischaemic heart disease, sickle cell disease, etc.
  - Worse if patient already sick, e.g. ITU,septic, etc.

– But often same patients at risk of harm from ↓ Hb : balance!

DHTR (AHTR) – can mitigate/ monitor/treat

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- If cannot wait for all investigations and provision of fully compatible blood.
  - **O-pos / O-neg / Group specific.**
  - **No underlying alloabs / urgent and if full ABO, Rh & K known – Match ABO, full Rh & K.**
  - **Planned / known pt / additional alloantibodies - Match ABO, full Rh & K and Additional antigens.**
- ABO, full Rh + K matched … and if time, serologically least incompatible.
- With 1g IV methyl prednisolone and/or IVIg cover at 1g/kg (or 0.4g/kg, if existing renal failure).
  - Monitor for haemolysis and renal failure
  - IV fluids if haemolysis occurs, to ↓ renal failure
  - Treat renal failure if occurs; dialysis, etc.
- Better than death from lack of blood …

Remember: To get a DHTR … first you have to live long enough.

Evidence for steroids/IVIg

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- Evidence for minimising/preventing DHTR:
  - Win et al, *Transfusion*, April 2018; 00:1-5.
  - Anderson et al, *Transfusion Medicine Review*, 2007; 21:59-56.
  - Woodstock et al, *Clinical Laboratory Haematology*, 1993; 15:59-61.
  - Kohar et al, *Vox Sang* 1994; 67:195-8.