

Paediatric Cardiac Transplantation

The First Thirty Days Post Transplant

Sister Julie Flett
Paediatric Transplant Specialist Nurse
Freeman Hospital, Newcastle upon Tyne
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“ For a dying person, a transplant is not a difficult decision. If a lion chases you to a river filled with crocodiles, you will leap into the

water convinced you have a chance to swim to the other side. But you would never accept such odds if there were no lion.”





The post transplant journey begins with pre transplant planning and a multidisciplinary approach



Post Transplant Journey

PICU

- Variable length of stay and level of support required

HDU / WARD

- Focus on rehabilitation and education
- Phased discharge and outpatient review
- Average length of stay in hospital 4-6 weeks but can be very much longer



Immunosuppression

Induction Therapy
ATG
Basilixumab

Calcineurin Inhibitors
Ciclosporin
Tacrolimus

Immunosuppression

Cell Inhibitors
Azathioprine
Mycophenolate Mofetil

Steroids
Methylprednisolone
Weaning Prednisolone



Monitoring

- Cardiac
 - Echo / ecg / biopsy
- Blood tests
 - Ciclosporin / Tacrolimus levels
 - FBC / U&E / Bone profile / Liver function
 - CRP, Magnesium, Glucose
- HLA antibodies
- Isohaemagglutinins for ABO mismatch



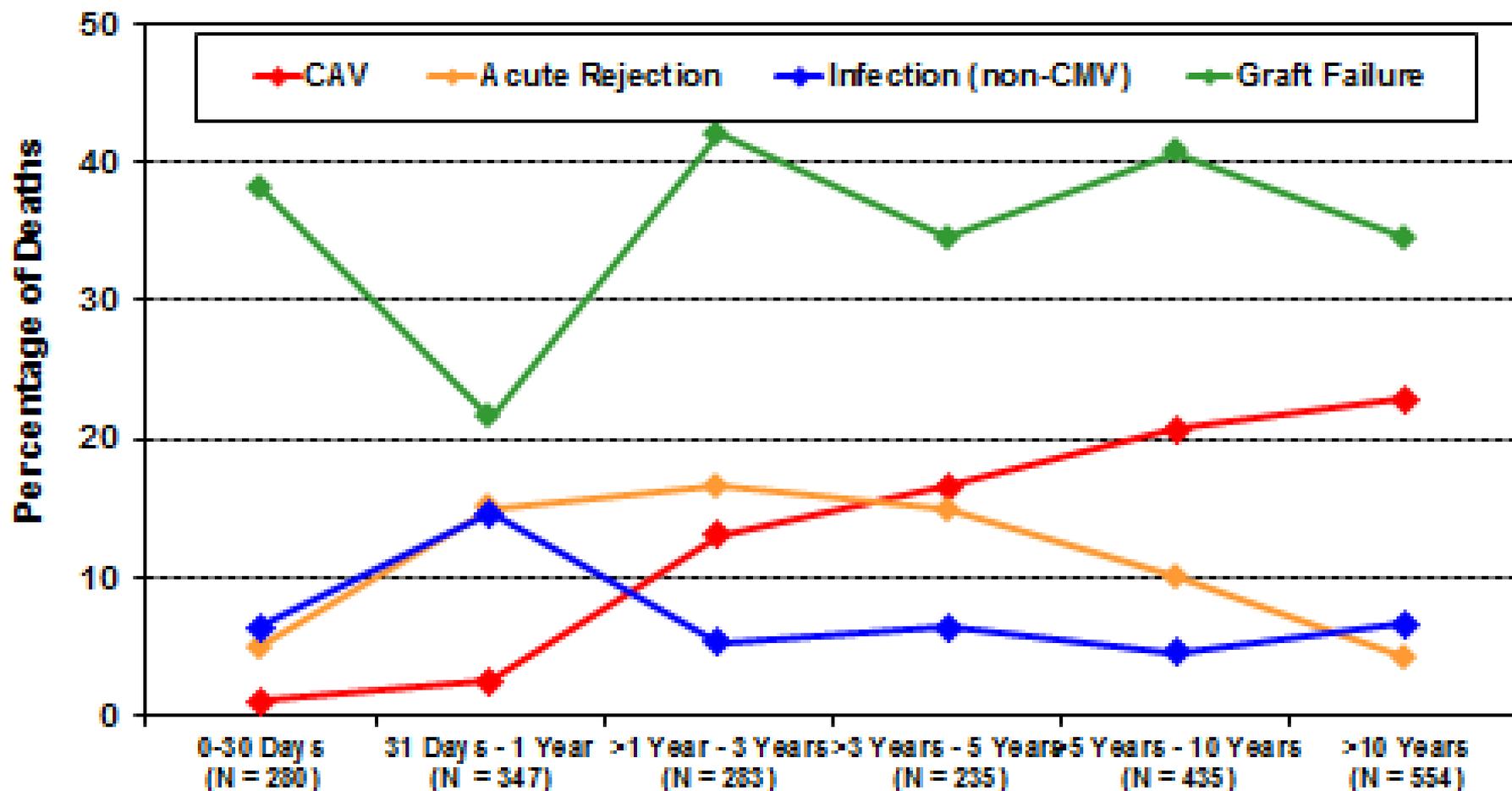
Complications

- Primary graft failure
- Rejection
- Infection
- Hypertension
- Renal Impairment
- Anaemia
- Medication side effects

Pediatric Heart Transplants

Relative Incidence of Leading Causes of Death

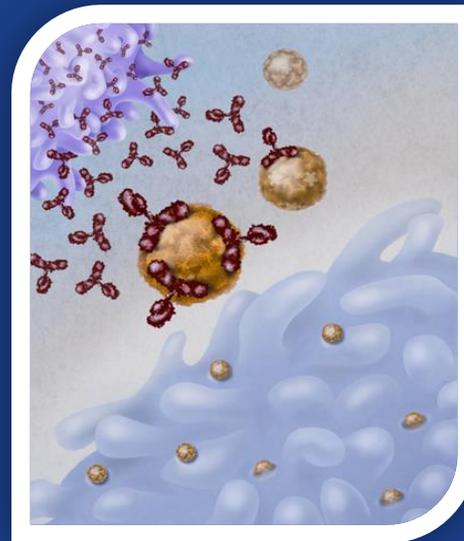
(Deaths: January 2005 – June 2018)





Rejection

- Cellular Rejection
- Antibody Mediated Rejection
 - HLA mismatch
 - ABO mismatch





Clinical cardiac signs of rejection are those of cardiac failure

Cardiac Symptoms

- Tachycardia
- Arrhythmia
- Gallop rhythm
- Pulmonary crackles or wheezes
- New pericardial effusion
- Mitral regurgitation or deteriorating cardiac function

General Symptoms

- Fever
- Tiredness
- Feeling unwell or irritable
- Shortness of breath
- Arrhythmia
- Fluid retention
- decreased urine output
- Abdominal pain



Diagnosis & Treatment

- Gold standard diagnosis by biopsy but common to diagnose with just ECHO findings
- 2 biopsies are carried out in selected patients within the 1st 3 weeks post transplant
- Result graded 0-3R
- Treatment IV steroids 10mg/KG once a day for 3 days followed by high dose oral steroids.
- Patient needs monitoring and protective isolation during this period.
- Toolkit for Antibody Mediated Rejection: Rituximab / Plasmapheresis / Immunoabsorption / IVIG / Bortezomib / Eculizumab



Infection

- Infection prophylaxis
 - Pneumocystis carinii pneumonia (PCP) prophylaxis
 - Herpes viral prophylaxis
 - Mouthwash to prevent Candida
- Protective isolation
- Type and treatment
- CMV / EBV
- Atypical infections



- Renal dysfunction
 - Electrolyte disturbance
 - Previous history
 - Nephrotoxic drugs
 - Renal replacement therapy
- Hypertension
- Anaemia
- Arrhythmias



Rehabilitation

- Comorbidities
- Education
 - patient and family
- Lines / Feeding tubes etc
- Early discharge planning
- Phased discharge
- Local teams essential





Specialist Nurse Team

Julie Flett 0191 2448185

Terry Hewitt 0191 2139412

Antonia Philp 0191 2139909

Cat Drake 0191 2139244

nuth.paedscardiotransplantnurses@nhs.net