

### Candidates

#### Who is a candidate?

Free of medical problems that would increase risk  
 - Will NOT take if: advanced/ uncorrected (cardiac) disease, cancer, psych issues, multiple organ involvement

#### Who is a donor?

Healthy, no infection/systemic disease  
 May donate diseased organs (hepatitis)  
 Living, NHBB, cadavers  
 No significant cancer history  
 No history of kidney disease/adequate kidney function

### Compatible?

#### Human Leukocyte Antigen (HLA)

Same blood type, tissue type

*Kidney:* ages 2-70

*Heart:* <65yo, <1 yr to live, stages 3 & 4 HF

### Factors to Consider

Tissue typing & blood typing

Body size

Geography

### Pre-Op

*Extensive evaluation process* - tissue typing

*Health teaching* - ready to take care of themselves?

Kidney transplant: dialysis after, may receive blood transfusion before

### Post-Op

Expected clinical findings & potential complications **MUST** be anticipated by the nurse!

### Stages of Rejection

1. Hyperacute (& Accelerated)
2. Acute
3. Chronic

### Hyperacute Rejection

#### 1st 48 hours - WORST

Recipient has antibody to donor transplant, not known before

*Risk factors:* previous transplant, different blood type

Clotting cascade → vascular damage → graft necrosis

A sure sign of graft failure

Symptoms: **inc. BP & pain at site**

Prevention:

- **Matching HLA**
- **Start anti-rejection meds ASAP**

### Accelerated Rejection

#### Within 1 week - 3 months

Variation of hyperacute  
 - Body makes lesser amount of antibodies

Specific to kidneys

Symptoms: **anuria, inc. BUN & creat., pain**

### Acute Rejection

#### Within 3 months - MOST COMMON

Responds best to - **immunosuppressive therapy**

Symptoms:

- **Dec. urine/anuria**
- **Temp. > 100°F**
- **Inc. BP**
- **Inc. BUN & creat.**

### Chronic Rejection

#### 3 months - 1 year

Most likely a combination of cell-mediated responses to circulating antibodies

Symptoms:

- **Inc. BUN & creat.**
- **Fatigue**
- **Electrolyte imbalances**

Treated conservatively

### Other Complications

**Infection** - AMS, low-grade fevers, opportunistic infections

#### Bleeding

**Hematomas/abscesses &**  
 fluid accumulation = wound complications

#### Urinary tract complications

### Maintenance Drug Therapy

Combination of...

#### IMMUNOSUPPRESSANTS & STEROIDS

**Cyclosporine (Gengraf & Sandimmune):**  
*stops the production of IL-2, which prevents activation of lymphocytes involved in transplant rejection*

**Anti-proliferatives:** *inhibit something essential to DNA synthesis, preventing cell division/activating lymphocytes*

- **Imuran (Azathioprine)**
- **Cellcept (Mycophenolate)**
- **Prograf (Tacrolimus)**
- **Rapamune (Sirolimus)**

*Risk of... leukopenia, thrombocytopenia, opportunistic infection*

**Monoclonal antibodies:** *target activation sites of T-lymphocytes, increasing their elimination*

- **Orthoclone (OKT3)**
- **Zenapax (Daclizumab)**

*Risk of... SIRS, developing malignancies*

**Polyclonal antibodies:** *derived from other animals, bind to and eliminate most T-lymphocytes, stopping rejection*

- **Atgam (Antithymocyte globulin)**

