Getting Ready for Kidney Transplantation!

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• Relevant Financial Relationships: None

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Outline

• Why Kidney Transplantation?
  ➢ Recognize the importance of **living** kidney donor transplantation

• Evaluation process

• Getting listed!
Why Kidney transplantation?

1. People live longer after transplant than they do on dialysis

2. Kidney transplantation provide more freedom than dialysis
Recipients of a Kidney Transplant Have a **Longer Life Expectancy** Than Patients Who Remain on Dialysis

Based on estimates from 2012, recipients of a kidney transplant had about **2.5 times** more remaining years of life than patients on dialysis.

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Patients With Certain Cancers Have a Better Chance of Surviving 5 Years Than Patients on Dialysis

~60% of dialysis patients die 5 years after starting dialysis

1% Prostate cancer
9% Melanoma
11% Breast cancer (female)
28% Kidney cancer
35% Colon and rectal cancers
72% Stomach cancer
83% Lung cancer
93% Liver cancer
93% Pancreatic cancer

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* Dialysis mortality data are taken from the USRDS 2014 Annual Data Report; cancer mortality data are from the American Cancer Society (ACS) Cancer Facts & Figures 2015.
Transplant-Related Quality-of-Life Benefits

• Maintenance of employment
• Relatively unrestricted diet
• Freedom to travel
• Ability to become pregnant & bear children
• Can engage in sports & physical training
• Lifestyle free of dialysis constraints
Why Living Donor Kidney Transplantation?
Projected Life Expectancy from Time of End Stage Kidney Disease

Longest after Living Donor Transplantation

Kidney Transplantation Results in Better Outcomes Than Remaining on Dialysis; However, the Wait for a Kidney From a Deceased Donor Is Long

ONLY 1 OUT OF 5 NEWLY WAIT-LISTED ADULT PATIENTS RECEIVED A DECEASED DONOR KIDNEY WITHIN 3 YEARS

63% of patients placed on the waiting list in 2010 did not receive a kidney transplant from a deceased donor within 3 years

aData are from the Organ Procurement and Transplantation Network/Scientific Registry of Transplant Recipients (OPTN/SRTR). 2013 Annual Data Report: Kidney. Three-year outcomes are for adult patients waiting for a kidney transplant and first placed on the waiting list in 2010.

bIncludes patients who were still waiting, died, or were removed from the list.
Advantages of Living Donor Transplantation

- Preemptive transplant option: before needing dialysis
- No wait for deceased-donor kidney (average 5 yrs in Minnesota)
- Can select donor for HLA matching, age
- Excellent organ quality and ↓ ice storage injury
- Minimal delayed kidney transplant function
- Can time transplant surgery for convenience
- Anti-rejection meds regimen may be less aggressive
- Better outcomes than deceased donor transplant
Evaluation Process
How to Get a Kidney Transplant?

• Talk to your kidney provider especially when your GFR/kidney function reaches < 30
• Ask for a referral to a transplant center
• Let your family and loved ones know of your need
• Get all the required testing done
• If you don’t have a living donor then you get listed for a deceased kidney
Disqualifications

- Active or Chronic Infection
- Active Malignancy (Cancer): Patients are often advised to be cancer free for at least 2 years (depending on the cancer can be up to 5 years)
- Lack of Compliance (not able to take anti-rejection medications regularly)
- Active mental illness (without suitable caretaker)
- Decompensated Liver disease (cirrhosis)
- Severe, irreversible heart dysfunction
- Poor Functional Status (not able to walk or rehabilitate after the surgery)
- Active Substance use
- Extreme overweight
Your Appointment

• Your information will be collected prior to your visit so that the team’s recommendations meet your medical needs

• Your visit will likely last 2 to 3 days

• You will meet with different team members: nephrologist, surgeon, social worker, dietitian, financial advisor, pharmacist...

• + Others: depending on your medical background: cardiologist, blood doctor, endocrinologist, urologist, neurologist...
During Your Visit

- A thorough medical, surgical, and psychosocial history is obtained
- Detailed physical examination
- **Extensive bloodwork**: Blood type, complete blood count, pregnancy test, infections screening etc...
- Chest X-ray & electrocardiogram
- **Special considerations for PKD**: screen for brain aneurysm if family history of brain aneurysm or bleeding
- **Other tests**: Stress test, CT scan, more bloodwork..
- Records for age-appropriate **screening tests**: Colonoscopy, mammogram, pap smear etc...
Getting Listed
After Your Visit

• Your case will be discussed at the transplant selection committee meeting

• Committee Decision:

  ➢ Listed: Active vs. Temporarily Inactive
  ➢ Deferred
  ➢ Denied
Different Sources of Transplants

• Living Donor
  • Less wait time
  • 50% or more last up to 15 years

• Deceased
  • Wait time vary by center ~ 5 years or more
  • 50% or more last 10 years
Waiting List for a Deceased-Donor Kidney

• When a living donor cannot be identified
• Lengthiest waits
  – Highly sensitized candidates (high PRA)
  – ABO blood groups O & B
  – Certain geographic areas (> 5 years)
• Administered by UNOS
  – Listing when eGFR ≤20
  – Centers must notify patients at regular intervals of their status on the list
  – Patients can be listed at multiple centers
While Waiting for Kidney Transplant

- Stay healthy: *take your medications as prescribed and follow a healthy diet*
- Keep all the appointments with your health care team
- Inform the transplant center about *any change* in your health status
- Make sure that the transplant center can reach you at all times if a kidney becomes available for you
If you have a Living Donor...
Evaluation of Donor/Recipient Compatibility

• Blood group (ABO)
  – must be **ABO compatible** (Rh + or - not important)

• Major histocompatibility complex (HLA)
  – Tissue typing of both recipient & donor
  – Panel-reactive antibody (PRA)
  – Cross-match (combining blood from the recipient with cells from the donor looking for HLA antibody in the recipient serum)

> If **Incompatible** Living Donor is available (Blood group incompatible or Antibodies to the donor:
  Option for listing for **Paired Kidney Exchange**
Paired Kidney Exchange

• If the living donor isn't a good match for you, you can look for an "exchange program" called “Paired Exchange”

• In a paired exchange, you and your donor find another donor and recipient who don't match each other, but do match with you.

• Then your donor can give a kidney to the other recipient, and the other donor can give a kidney to you
Paired Exchange

The donor in each pair cannot give their kidney to the recipient because they are not a match.

The donors can give their kidney to the other recipient because they are a good match.
Transplant Surgery
Removing the Polycystic Kidneys?? reserved for recurrent, symptomatic, cyst-related complications or kidney size that would make the transplant surgery difficult.
What is the Down Side of Transplantation?

- There are risks related to surgery & antirejection medications
- You may be at higher risk for infections (most are treatable)
- You may be at slightly higher risk of malignancy: on average 2 to 3-folds higher - except for skin cancer many folds higher
- Lifelong medications and careful monitoring are needed after transplant
- Close follow up required especially early on (frequent blood draws, clinic visits...)
Key Points

• Kidney transplantation is a form of therapy for end-stage kidney disease and not a definitive cure
• Compared to dialysis, transplantation not only leads to quality of life improvement, but also prolongs your lifespan
• Preference for **preemptive living** donor kidney transplant
• PKD patients have overall the best results
• Specific screening testing to PKD patients: **brain aneurysm, kidney sizes, liver cysts**
• There are risks related to surgery and antirejection medications
• Lifelong medications and careful monitoring is needed after transplant
Thank You!

Questions & Discussion