

Lupus and the Kidney: Lupus Nephritis

October 2019

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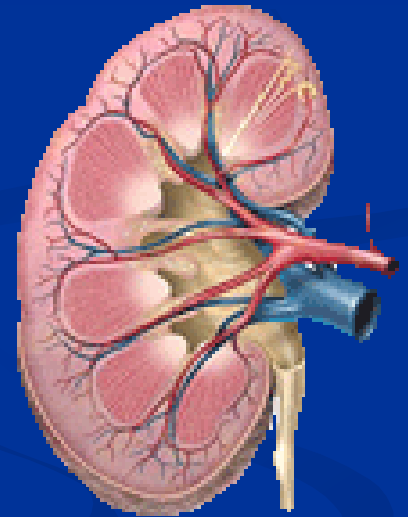
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Role of the Kidneys

- Important in filtering blood to help remove wastes and toxins
- Important in keeping our electrolytes in balance
- Involved in controlling blood pressure
- Involved in bone health and bone marrow health



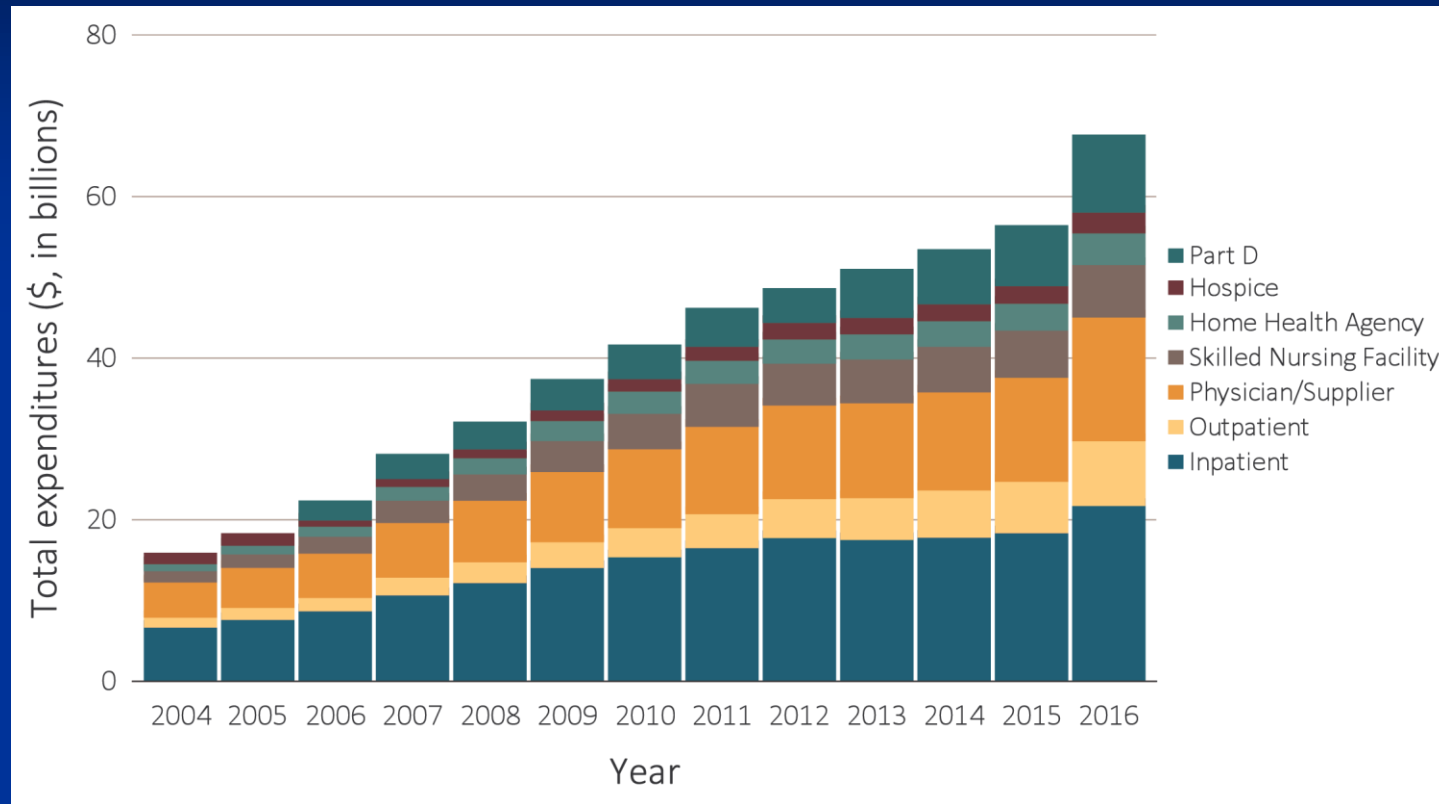
What is Chronic Kidney Disease (CKD)

- A condition in which the kidneys are damaged and cannot do its functions as well as healthy kidneys
- Defined as abnormal kidney function persisting more than 3 months
 - This differs from Acute Kidney Injury (or AKI) which is acute in onset and often reversible
- Kidney tests include both blood and urine
 - Serum creatinine, Glomerular Filtration Rate (GFR), urine protein levels

Burden of CKD

- Almost 30 million Americans have kidney disease
 - Prevalence of about 14% of the adult population
- Kidney disease ranks as the 9th leading cause of death in the USA
 - Almost 47,000 Americans died from kidney disease in 2013
- 1 in 3 American adults are at risk for developing CKD
- About 50% of individuals with CKD also have diabetes and/or self-reported heart disease

Trends in total Medicare Parts A, B, and D fee-for-service spending for CKD patients aged 65 and older, by claim type, 2004-2016



Data source: Medicare 5% sample. Part D data occurring since 2006. Abbreviations: CKD, chronic kidney disease; ESRD, end-stage renal disease.

Kidney Disease

- Two most common causes of kidney disease are:
 - Diabetes
 - Hypertension
- But there are many other conditions that can cause kidney disease
 - Circulating factors (suPAR)
 - Inherited disease (polycystic kidney disease)
 - Autoimmune diseases (e.g. Lupus)
 - Blockage
 - Medications

Kidney Involvement in Lupus

- Lupus is an autoimmune disease in which the body's immune system attacks the organs
- The kidneys can be involved in almost 40% of patients who have lupus
 - The kidneys are commonly one of the major organs involved
- Lupus Nephritis

Lupus Nephritis

- How do you know if you have lupus nephritis?
- Urine tests
 - Blood – not visible, seen under the microscope
 - Protein – again not visible
- Blood tests
 - Serum Creatinine
 - Lupus labs – typically very abnormal

Lupus Nephritis

■ Kidney Biopsy

- Typically needed to confirm the diagnosis
- Helps guide treatment choices
- Help determine long term damage

■ The procedure requires a hospital stay (short)

■ Risks vs benefits

Lupus Nephritis

- 6 different classes of lupus nephritis which are diagnosed based on the biopsy results
- The findings on the biopsy along with any other lupus symptoms/organ involvement will determine the type of treatment

Treatment



Induction Phase



Maintenance Phase

Treatment

■ Steroids

- Mainstay of treatment if needed based on the biopsy
- Higher doses
- Stopped over time

■ Combined with medications such as

- MMF (Cellcept), Azathioprine (Imuran), Cyclophosphamide (Cytosan)

Lupus and Kidney Disease

- Kidney disease due to Lupus can range from mild disease requiring no specific treatment to severe disease requiring targeted treatment
- Most patients do very well with treatment
- You may need to take medication for years to keep the kidney disease in check

Lupus and Kidney Disease

- If you have kidney disease, there are other steps we can take to help protect our kidneys
- Smoking can accelerate kidney damage
- Controlling your blood pressure
- If you have diabetes, controlling your blood sugar
- Avoid medications even if they are over the counter unless recommended by your healthcare team

Lupus and Kidney Disease

- In the most severe cases, patients may develop worsening kidney disease
- If your kidneys fail, there are options at that time which include dialysis and possibly a kidney transplant
- Lupus patients do well with both of these as do patients who have other types of kidney disease

Symptoms of Kidney Disease

- Most patients with early kidney disease may not have symptoms
- In later stages, some symptoms may arise including:
 - Loss of appetite; nausea, vomiting
 - Feeling tired or short of breath
 - Having trouble thinking clearly
 - Swollen feet and/or ankles
 - Weird or metallic taste

When is Dialysis needed?

- You need dialysis when the function of the kidneys have deteriorated to less than 10-15%
- You may or may not feel symptoms such as
 - Nausea/Vomiting
 - Loss of appetite
 - Weight loss
 - Itching
 - Swelling from fluid build-up
 - Difficult to control blood pressure
 - Fatigue (feeling weak)

Lupus and Kidney Disease

Prevention

- Make sure to follow up with your primary care and lupus doctor regularly
- If there is any evidence of kidney involvement, you will be referred to a kidney doctor

Thank You