Naturopathic Medicine and the Kidney Patient

Dr. Jenna Henderson

drhenderson@holistic-kidney.com

www.holistic-kidney.com
The KDIGO CKD guideline 4.4.5 states: We recommend not using herbal remedies in people with CKD. (Level of evidence: 1B)

Patients often chose alternative medicine either with self medication or working with an alternative practitioner.

Beneficial to understanding what the patients are encountering.
Patients and family often looking for alternatives to mainstream medicine for a variety of reasons:

- Side effects of medications, particularly prednisone and other immune suppressants.
- Medications often not successful at bringing remission.
- Cost of medications can be prohibitive for many families.
- Personal preferences toward natural remedies.
- Fear of dialysis. A willingness to do anything except dialysis.
Objectives

- Understanding of what professionals might recommend herbal medicine.
- What herbs are commonly used by kidney patients when they self medicate.
- Awareness of research in the field of botanical medicine as it pertains to nephrology.
- Some herbs that show potential in research for treating specific kidney conditions.
- Knowing what herbs to be concerned about with potassium and phosphorus.
- Red flags of when to be concerned about patient safety.
What percentage of chronic kidney disease patients do you think use complementary/alternative medicine?

A. 10%
B. 30%
C. 64?
Answer:

- 64%

- According to Journal of Renal Nutrition Nov 2015
What percentage of dialysis patients do you think use complementary/alternative medicine?

A. 10%
B. 33%
C. 50?
Answer:

33%
What percentage of kidney transplant patients do you think use complementary/alternative medicine?

A. 10%
B. 33%
C. 40?
Answer

- 40%
Nephrology and alternative medicine often worlds apart

- Completely different terminology.
- Nephrologists are not trained in herbal medicine.
- Alternative practitioners usually have a limited understanding of nephrology, especially advanced kidney disease, dialysis and transplantation.
- Many patients self-medicate with herbs and don’t tell their MD.
- Many patients take advice from individuals who are not qualified, especially online.
There are many professions in which there is some formal training with botanical medicine.

- American Herbalists Guild (AHG) recommends many different training programs.
- Acupuncturists (Lac) or Doctor of Oriental Medicine (DOM) will have training with traditional Chinese botanicals.
- Programs to study traditional Indian herbs (Ayurveda)
- Naturopathic doctors (ND) are the only professionals trained with both mainstream medicine and herbal medicine. Core curriculum includes botanical medicine and pharmacology.
- Not all who call themselves naturopathic doctors are in fact doctors. Unaccredited programs exist in unlicensed states. Often referred to as “un-Ds”.
Bio

- Dr. Henderson has been a kidney patient since 1993.
- Has gone through renal failure, dialysis and transplantation.
- Attended an accredited 4-year doctoral program.
- Wrote doctoral thesis on Botanical Medicine as Adjunctive Therapy for the Transplant Patient.
- Licensed by the state of Connecticut.
- Has the largest naturopathic practice exclusively for renal patients, with consultations from around the world.
Does this alternative practitioner understand kidneys disease? Be alert to red flags:

- They don’t understand the difference between kidney failure and nephrotic syndrome.
- All kidney advice lumped together, whether diabetic nephropathy, nephrotic syndrome, polycystic kidneys, kidney stones or kidney infection.
- Claiming that the body is too acidic based on the pH of the urine.
- Extreme diets or overblown claims-- macrobiotics, raw juice fasting, etc.
Don’t walk-- run!

- Willingness to give off-the-cuff advice without reviewing labs or history.
- A more is better approach to drinking water.
- Practitioners who want patients to abruptly stop all medications.
- Practitioners who encourage patients to stop seeing a nephrologist.
- Practitioners who discourage dialysis when the patient is clearly in kidney failure.
There are reliable sources for herbal medicine research online.

True or False
What to consider for with herbal information online:

- Does this writer have formal training in botanical medicine?
- Does this writer understand kidney disease?
- Are they grouping together all types of kidney issues--kidney stones, UTI and kidney failure?
- Are they citing tradition, personal anecdotes, clinical practice or peer reviewed studies? All of the above could be potentially useful but know what you’re dealing with.
What resources exist to learn about peer reviewed research into herbal medicine?

- Guidebook published by the German government equivalent of the FDA translated into English: *Herbal Medicine: Expanded Commission E Monographs.* Considered by many to be a definite guidebook. (Note info. on transplant medicine safety is lacking.)
Additional resources:

- **Natural Medicine Journal** the official journal of the American Association of Naturopathic Physicians.
- **HerbalGram** the journal of the American Botanical Council.
- [www.herbalgram.org](http://www.herbalgram.org) has online herbal library.
- **NDNR** Naturopathic Doctors News & Reviews
- **Townsend Letter: The Examiner of Alternative Medicine**
Understanding what kidney patients encounter when they look to natural medicine.

- Safety of herbs. Herbs to approach with caution
- Herbs marketed for kidney problems
- Culinary herbs
- Herb/drug interactions
- Beneficial herbs for CKD
- Herbs for dialysis patients
- Herbs and the transplant patient
Herbs often perceived as being less dangerous than prescription medications.

- Large number of prescription medications are synthetic forms of compounds originally discovered in plants.
- Prescription medications are a large dose of a single chemical compound.
- Herbal preparations contain the active constituent plus a myriad of cofactors which often mitigate side effects.
- Low dose of any one compound makes it harder to isolate a single factor. Usually combined effect of many chemically naturally occurring in the plant.
The good and the bad

- Often fewer side effects. Compare white willow to aspirin or Cyclosporine to Cordyceps mushroom.
- Far fewer fatalities from herbal medicine.
- Harder to quantify the active chemical components.
- Herbs cannot be patented. Therefore far less financial incentive to study.
- Many animal studies. Fewer human studies.
- Herbs with extensive histories usually classified as GRAS-- generally recognized as safe.
Herbs/ remedies for kidney patients to avoid or use with caution with advice of qualified practitioner.

- Stimulants that can raise blood pressure such as Yohimbe.
- Ma Huang (Ephedra)
- Guarana
- Licorice -- increases aldosterone and water retention.
- Strong laxatives like senna and cascara segrada.
- Essential oils/ aromatherapy
- Colloidal silver
- Be suspicious of very inexpensive supplements.
- Phosphorus (P) additives. Phosphatidylserine, phosphatidylcholine
Herbs commonly marketed to kidney patients

- Generally oriented toward UTI or kidney stones. Very little aimed toward chronic kidney disease.
- Botanical medicine kidney formulas will usually include one or more of the following:
  - Diuretic
  - Demulcent
  - Antibacterial agent
Herbal diuretics-- do the kidneys really need to be cleansed?

- Often sold in health food stores often as detox teas. These include uva ursi, juniper, buchu, goldenrod, dandelion, parsley.
- Diuretics push the kidneys to work harder. They don’t “build the kidneys” or do anything to protect kidney tissue from the damage of chronic kidney disease.
- Lasix is still best bet for water retention issues.
Demulcent herbs

- Soothing to irritated membranes.
- Often a gummy texture due to mucopolysaccharides.
- Aloe vera topically for burns is an example of a demulcent.
- For kidneys—slippery elm, marshmallow tea, corn silk or aloe vera juice.
- Soothing to kidney membrane.
- Clinically useful with hematuria.
- NOT safe post-transplant
Antibacterial agents

- Cranberry or blueberry. Fruit, fruit juice or encapsulated extract.
- Inhibits bacteria from adhering to lining of urinary tract.
- Cranberry is acidic. Blueberry is alkaline.
- Good for UTI.
- Good antioxidants and low potassium. But otherwise not targeted for chronic kidney disease.
Caution-- Immune stimulants

- Best to avoid with autoimmune nephritis: Minimal Change, IgA nephropathy, FSGS, lupus nephritis.
- This includes: echinacea, elderberry (Sambucol), maitake, andrographis. Herbs used for cold/flu. Also bovine colostrum.
- Caution with herbs classified as Adaptogens-- Panax ginseng, American ginseng, Ashwagandha, Eleuthero and Rhodiola. Used as stimulants for energy.
- Absolutely contraindicated post-transplant.
Culinary herbs that can effect the kidneys

- Garlic
- Cinnamon
- Curry/ turmeric
- Ginger
- Tea (Camilla sinensis) includes black tea, green tea and white tea.
Garlic (Allium sativum)

- Mildly anti-hypertensive
- Evidence that it protects the kidneys from toxicity of medications including Methotrexate, Gentamicin and Cisplatin.
- Antifungal, antibacterial, antiviral. Potentially beneficially for the immune compromised.
- Reduces the nephrotoxicity of medications like Cyclosporine.
- One of the very few herbs safe post-transplant.

Comparison between swallowing and chewing of garlic on levels of serum lipids, cyclosporine, creatinine and lipid peroxidation in renal transplant recipients.

Lipids Health Dis 2005 May 19;4:11.
PMID: 15943877
Cinnamon (Cinnamomomum cassia)

- Decreases blood sugar
- Increases insulin sensitivity
- Some evidence that it helps nephritis
- Reduces LDL cholesterol and triglycerides
- Maybe toxic at large doses.
- Appears safe post-transplant but definitive studies are lacking
Curry/ turmeric (Curcuma longa)

- Curcumin is the most active constituent of the curry spice turmeric.
- Reduces inflammation/proteinuria
- Supports kidney function
- Improves bone density
- Reduces pain. May help decrease reliance on pain medication.
- Helps blood sugar
- Helps blood pressure
Ginger (Zingiber officinalis)

- Botanically similar to turmeric.
- More than 300 active constituents of ginger identified.
- Possibly more medicinal uses than any other herb. One of the best researched plants on earth.
- Reduces inflammation in the kidneys
- Anti-platelet activity. Benefits of aspirin without the side effects.
- Reduces nephrotoxicity of antibiotics.
Tea (Camilla sinensis)

- Black tea, green tea and white tea all come from the same plant.
- Highest food source of antioxidant quercetin.
- Reduces inflammation/proteinuria.
- Reduces blood pressure in spite of small amount of caffeine.
- Prevents cardiac hypertrophy of CKD.
- Protects the kidney from contrast induced nephropathy.
- Reports of liver toxicity only with capsules in very concentrated form. Not toxic when used traditionally as a beverage.
Herb/prescription drug interactions

- Good to look up case by case.
- Don’t mix herbs with prescription drugs that have opposite effects—i.e. Herbs that raise immunity by increasing Il-2 along with prescription medications that lower Il-2.
- Some herbs can effect the rate of metabolism of medications. If you’re consistent, dosages can be adjusted. Don’t take sporadically.
Herbs that ameliorate specific conditions of the kidney

- IgA nephropathy -- Astragalus membranaceus
- FSGS -- Ganoderma lucindum
- Lupus nephritis -- Cordyceps, Artemisia
- Membranous glomerulonephritis (MGN) -- Arctium lappa
- Minimal Change Nephrotic Syndrome (MCNS) -- Bromelain
- Polycystic kidney disease (PKD) -- Curcumin, betaine
Other herbs/ therapies that help nephrotic syndrome/ proteinuria

- Nettles seed
- Rehmannia glutinosa
- Quercetin (Green tea is highest food source.)
- Omega-3 fatty acid (fish oil or flax seed oil. Avoid krill oil, cod liver oil or algae sourced.)
- Melatonin
- Address hypothyroidism
Foods/herbs that support healthy blood pressure

- Hibiscus tea
- Celery
- Green tea
- Beet juice
- Garlic
- Watermelon (caution with potassium issues)
- Dark chocolate (caution with phosphorus and potassium issues)

These help with early kidney disease, but will not be enough for advanced kidney disease.
Supplements that support kidney function:

- Coenzyme Q10
- Cordyceps mushroom
- Curcumin
- Emblica officinalis (Amla)
- Hibiscus
- Rehmannia glutinosa
- Ribose
- Salvia miltiorrhiza (Dan shen)
Ongoing support for cardiovascular health in dialysis patients.

- Serum coenzyme Q10 levels are associated with coronary flow reserve in hemodialysis patients. Hemodial Int. 2013 Jul;17(3):339-45.

- Coenzyme Q10 helps with coronary artery stenosis.

- Anecdotal evidence it helps with muscle cramps that are common during dialysis treatment.
Pomegranate juice for dialysis patients

- One year of pomegranate juice intake decreases oxidative stress, inflammation, and incidence of infections in hemodialysis patients: a randomized placebo-controlled trial.


- A medium potassium food. Drink 1 or 2 oz. only. Not 8 oz. glass.

- Stay within daily limitations for potassium.
Epimedium sagittum improves quality of life for men on dialysis.

- Also increased immunity as measured by peripheral blood monocytes and IL-2.
- NOT SAFE POST-TRANSPLANT
Herbal medicine and transplantation

- Widespread transplantation was made possible by the Cordyceps mushroom.
- Cordyceps is a medicinal mushroom from China with a very long history of use.
- Cyclosporine came from Tolypocladium inflatum, which is the asexual form of the Cordyceps mushroom.
All transplant medications suppress a particular immune signal.

- Interleukin2 (Il-2) is a chemical signal which turns on the immune response.
- All anti-rejection medications suppress Il-2.
- Many botanical medicines and medicinal mushrooms increase Il-2 and would therefore be contraindicated.
- **Traditional herbal folklore cannot be used with transplant medicine, only controlled studies.**
Partial list of herbs contraindicated with a transplant

- Aloe vera (internal use)
- Andrographis
- Angelica sinensis
- Ashwagandha
- Astragalus
- Corn silk
- Echinacea
- Emblica
- Epimedium
- Ginseng (all types)
- Licorice

- Milk thistle
- Maitake mushrooms
- Momordica charantia
- Rauwolfia serpentina
- Rehmannia glutinosa
- Reishi mushrooms
- Rhodiola
- Shiitake mushrooms
- Slippery elm
- St. John’s Wort
- Viscum album (Mistletoe)
Why do transplant patients look to herbal medicine?

- Estimated 30% of all transplant patients take some natural supplement.
- Perception that natural = safe.
- Difficulty living with immune suppression.
- Increased cancer rates.
- Increased infections—virus, bacterial and fungal.
- Gastrointestinal distress.
- Graft loss, decreased function.
- Nephrotoxicity of immune suppressants.
Green tea and transplantation

- In an animal model, green tea increased graft survival and decreased reaction with mismatched donors.
Black tea and transplantation

- Black tea improves endothelial function in renal transplant recipients.
- Black tea improved markers of cardiovascular function post-transplant.
Cordyceps mushroom and transplantation

- Toxicity of Cyclosporine is an issue for many transplant patients.
- Use of Cordyceps mushroom allowed for a reduced dose of Cyclosporine without changing immune compromised status.
Ginkgo biloba and transplantation

- Ginkgo has been demonstrated to reduce cyclosporine toxicity. Studies on the preventative effect of a PAF antagonist, BN52063, which is a mix of ginkgolides, found a reduction in tubular and interstitial damage without interference of immunosuppressive effects.
Integrative medicine of the future

- Model of China using prescription medications and traditional herbal remedies side by side.
- Increasing acceptance of herbal medicine in past few decades.
- Well informed patients increasing demand all options to be available.