

Complementary Medicine for the Kidney

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Companion animals are living longer. As they do, their risk of developing structural and functional changes in the kidneys grows. Fifteen percent of dogs ten years of age or older and a third of cats fifteen years of age or older exhibit these changes.ⁱ Therapeutic diets have played a role in renal support for years. However, a recent survey indicated that less than three percent of respondents reported feeding therapeutic diets to their dogs and cats with health problems such as kidney disease.ⁱⁱ About ten percent administered dietary supplements, with fatty acids among the top three. This figure contrasts starkly with forty percent of respondents who were providing supplements for their dogs and cats with cancer.ⁱⁱⁱ It also differs greatly from supplement popularity in people, with over fifty percent of adult Americans taking one or more dietary supplements.^{iv} Nevertheless, the desperation to help animals with ailing kidneys brings caregivers to ask whether herbs, nutraceuticals, or acupuncture might be able to help. The research literature offers some hope that adjunctive measures may prove worthwhile.

Nutraceuticals

Antioxidants and fish oils may be included in the diet itself or given separately. Antioxidants relax smooth muscle and increase glomerular filtration rate.^v Fish oil reduces plasma lipids and intraglomerular pressure.^{vi} Omega-3 fatty acids heal glomerular and tubulointerstitial lesions;^{vii} they may act as precursors to vasoactive eicosanoids that govern renal hemodynamics.^{viii} Other putative mechanisms involve anti-inflammatory, anti-coagulant, and anti oxidant effects, as well as reducing intrarenal calcification.^{ix x}

Acupuncture

Anecdotal evidence indicates acupuncture may benefit patients with kidney disease. A recent study from Korea evaluated the effect of acupuncture on the recovery from ethylene glycol-induced acute renal injury in dogs and found significant benefits in the acupuncture group.^{xi} These improvements in renal function likely arise from acupuncture's neuromodulatory influence on autonomic tone.^{xii}

Herbs

An impressive array of alternative approaches has been advocated for small animals with kidney disease, including Western and Chinese herbs, immunomodulators, mushrooms, quercetin, vitamins, nutraceuticals, and more.^{xiii}

Recent research indicates that danshen, or *Radix Salvia miltiorrhizae*, relaxes vessels by enhancing microvascular protein synthesis of endothelial nitric oxide synthase, leading to an increase in nitric oxide production.^{xiv} Danshen, in combination with seven other herbs including Chinese rhubarb, confers nephroprotection in chemical-induced acute and chronic renal failure in rats.^{xv} Popular herbal combination products for kidney disease such as Eight Flavor Rehmannia Pills may improve renal function, though evidence proving its value for this application is limited.^{xvi xvii}

Despite their popularity among CAM practitioners, Chinese herbs have a dark side, especially for patients with kidney disease. A recent cross-sectional survey of 1740 Taiwanese adults revealed that herbal therapy was independently and positively associated with the risk of chronic kidney disease in participants not using analgesics.^{xviii} Kidney insults caused by herbs include: acute tubular necrosis and toxicity, acute interstitial nephritis, papillary necrosis, urolithiasis, urinary retention, hypertension, carcinoma of the urinary tract, chronic tubulointerstitial nephritis with fibrosis, and acute rejection of renal transplant.^{xix xx}

The difficulty with averting disasters when prescribing herbs arises due in part to the lack of regulation and oversight.^{xxi} The recent tragedy of animal illness and death linked to tainted products from China painfully drives this message home.^{xxii} Up to 23.7% of Chinese herbs sold in Taiwan are adulterated; no studies exist on the percentage of adulterated Chinese herb products sold in the United States. The most common adulterants in Taiwanese herbs were found to be caffeine, hydrochlorothiazide, acetaminophen, and indomethacin.^{xxiii} All pose hazards to the kidney, as do the nephrotoxic heavy metals such as mercury and lead that contaminate some Chinese herbs. Drug-herb interactions may lead to unexpected complications, and require astute history-taking and familiarity with herbal actions to identify.^{xxiv} Ultimately, whether the potential benefits of herbs will outweigh the risks or not remains unknown, and caution is advised in this vulnerable, and often geriatric, population.

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