

Evidence summary

Chinese medicine for diabetic kidney disease

This summary of key findings from *Volume 10: Diabetic kidney disease*¹ of the Evidence-based Clinical Chinese Medicine monograph series outlines:

- what diabetic kidney disease is
- current treatments
- findings from research into classical Chinese medicine literature and modern Chinese medicine clinical studies.

What is diabetic kidney disease?

Diabetic kidney disease is one of the major complications of diabetes.² It causes a build up of the protein albumin in urine (called 'albuminuria') and loss of kidney function over time. Diabetic kidney disease can lead to kidney failure. More than 40% of people with diabetic kidney disease get end-stage renal disease and need dialysis and kidney transplant.³

Current treatments

Clinical guidelines recommend lifestyle changes, such as healthy diet, exercise and quitting smoking, to improve diabetes and kidney disease. They also recommend managing multiple risk factors for diabetic kidney disease, including high blood sugar levels, high blood pressure and high cholesterol. First-line drug therapies for diabetic kidney disease are sodium–glucose co-transporter-2 inhibitors and metformin. Most patients will also need to take medicines to block the renin-angiotensin system, such as angiotensin-converting enzyme inhibitors (ACEi) or angiotensin II receptor blockers (ARB). Other medicines used to treat diabetic kidney disease and its risk factors include glucagon-like peptide-1 receptor agonists and statins.²

Chinese medicine treatment options include Chinese herbal medicine, acupuncture, ear acupuncture and herbal

enema. Chinese medicine diet therapy and gentle physical activities, including *tai chi* and *Ba duan jin*, are also used to manage diabetic kidney disease. Chinese medicine practitioners base their treatments on the patient's symptoms, relevant clinical textbooks and guidelines, research and clinical experience.

Classical Chinese medicine literature

The *Encyclopedia of Traditional Chinese Medicine (Zhong Hua Yi Dian)* is a large and important collection of Chinese medicine books. Diabetic kidney disease is a modern disease name and citations were found based on the presentation of diabetic kidney disease symptoms. It includes 59 citations that describe the treatment of diabetic kidney disease symptoms with Chinese herbal medicine, including decoctions and pills.

Chinese herbal medicine therapies for diabetic kidney disease symptoms are similar in classical literature and modern clinical studies.

Modern Chinese medicine clinical studies

Chinese herbal medicine

To write the *Diabetic kidney disease*¹ monograph, nine biomedical databases (five English-language and four Chinese-language) were searched in April 2015. This search found 464 relevant studies of Chinese herbal medicine for diabetic kidney disease. Most studies (437) were randomised controlled trials of Chinese herbal medicine. An additional search of the databases was conducted in May 2021, which identified three new relevant registered randomised controlled trials of Chinese herbal medicine.

In randomised controlled trials that looked at Chinese herbal medicine for diabetic kidney disease, there was no compelling evidence showing that Chinese herbal medicine can improve kidney function (eGFR). However, Chinese herbal medicine may reduce serum creatinine concentrations when taken alone or combined with ACEi/ARB. Longer treatment duration may have a more beneficial effect.

Chinese herbal medicine combined with ACEi/ARB may further lower urinary albumin and other protein excretion, change kidney function and delay kidney damage. However, it was uncertain whether Chinese herbal medicine in combination with ACEi/ARB reduced mortality and progression to end-stage renal disease due to a lack of evidence.

Some people who participated in these trials reported digestive upsets, such as diarrhoea, loose stools, loss of appetite and upper abdominal discomfort.

The three new relevant registered randomised controlled trials of Chinese herbal medicine for diabetic kidney disease had mixed results: some showed benefit, others showed no added benefit to conventional therapies.

Acupuncture and related therapies

There is limited evidence to support the use of acupuncture therapies to treat diabetic kidney disease. The original database search found 27 relevant studies of acupuncture therapies for diabetic kidney disease. One randomised controlled trial showed moxa plus conventional therapy reduced urinary albumin excretion rate.

One new relevant registered randomised controlled trial of acupuncture for diabetic kidney disease was identified in the 2021 search. It showed no benefit or harm in using acupressure for early diabetic kidney disease.

Key messages

- Chinese medicine treatments have been used throughout history to treat diabetic kidney disease.
- Treatment approaches have remained consistent over time.
- Chinese herbal medicine combined with conventional therapy may increase the chance of cure and prevent recurrence.
- Limited evidence is available to support the use of acupuncture for diabetic kidney disease.
- Clinicians and patients should discuss the potential risks and benefits, so patients can make informed choices.

For more information

Find out more about Chinese medicine for diabetic kidney disease in the book *Evidence-based Clinical Chinese Medicine Volume 10: Diabetic kidney disease*¹ from <https://doi.org/10.1142/11151>

To find out more about Chinese medicine research at the China–Australia International Centre for Chinese Medicine, visit www.rmit.edu.au/research/centres-collaborations/multi-partner-collaborations/cairccm

References

1. Shergis J, Yang L. (2019) *Volume 10: Diabetic kidney disease*. Xue CC, Lu C, editors. World Scientific Publishing Co. Pte. Ltd.; Singapore.
2. Kidney Disease: Improving Global Outcomes (KDIGO) Diabetes Work Group. (2020) Kdigo 2020 clinical practice guideline for diabetes management in chronic kidney disease. 98 (4S):S1-S115.
3. Alicic R, Rooney M, Tuttle K. (2017) Diabetic Kidney Disease. *Clin J Am Soc Nephrol*. V12 (12): 2032-2045.

Disclaimer

This evidence summary is not intended as a guide for self-medication or medical advice – patients should seek professional advice from qualified Chinese medicine practitioners.