

Hormone imbalance may explain your high blood pressure: study

Jill Margo *Health editor*



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More than half a million Australians are living with high blood pressure caused by a largely undiagnosed condition that is easily detected and treated, according to a study in the *Medical Journal of Australia*.

Many take prescription medicine with little to no effect and have been told the root cause of their hypertension (high blood pressure) is unknown.



Dr Jun Yang and her father, Lisheng Yang, who got rid of his four daily drugs and now takes a quarter of a tablet that controls his blood pressure “perfectly”.

But they have an endocrine condition in which they over-produce a hormone called aldosterone, which is responsible for controlling sodium and potassium levels in the blood.

Left untreated for decades, this condition increases the risk of heart arrhythmia, heart attack and stroke. It also causes hypertension, which, in turn, can affect the heart and increase the risk of peripheral arterial disease, aortic aneurysms, kidney disease and vascular dementia.

This important study, from Melbourne’s Hudson Institute of Medical Research and Monash University, is calling for screening for this condition, known as primary aldosteronism, PA, or Conn’s Syndrome.

When a GP has a patient with hypertension, it recommends a test for PA be included in the patient's tranche of standard blood tests.

The harmful effects are avoidable, says the head of the Hudson's Endocrine Hypertension Group, Dr Jun Yang, senior author of the study led by Dr Renata Libianto, an endocrinologist and PhD student.

Published Monday, the study suggests that of the 6 million Australians with hypertension, at least 10 per cent have PA, but only 0.1 per cent know it.

“Although this condition of the adrenal glands was first identified in 1955 and has been extensively studied, there is very little awareness of it in primary care, despite GPs being on the front line of hypertension management,” says Dr Yang.

The situation is similar in other countries, except Japan, where it is well recognised and treated.

PA can be controlled with the old, inexpensive drug, spironolactone, which blocks aldosterone. A minority of patients can have surgery to cure the condition.

Dr Yang knows the benefits of an accurate diagnosis. While writing hospital guidelines for PA, she looked at her father, Lisheng Yang, then 64, who was taking four drugs for his blood pressure [<https://www.afr.com/policy/health-and-education/popular-blood-pressure-drug-raises-melanoma-risks-20200805-p55iq3>] which stubbornly remained above normal.

“Hold on, I should test him,” she thought.

“Initially, he tested negative because there is a trick. Common blood pressure drugs can mask the condition and may produce a false-negative result. So, over six weeks I changed his medications to ones that do not interfere. With that, he returned a positive result.”

When further testing confirmed the disease, he got rid of the four drugs. That was 2011 and today, Mr Yang, a retired engineer, takes a quarter of a tablet of spironolactone daily, and his blood pressure “is perfect”.



For patients with hypertension, we recommend GPs include a test for PA in the patient's tranche of standard blood tests, says Dr Yang.

To her surprise, when Dr Yang tested her mother, Professor Cherrie Zhu, she had the condition too. At 62, she had just been diagnosed with hypertension and had not been treated. She's also on a quarter tablet, and at 70 her blood pressure remains perfectly controlled.

Previous reports have shown after a diagnosis of hypertension it takes 13 years for a diagnosis of PA to be made. During this time, 40 per cent of patients develop organ damage. Targeted treatment of PA can reverse the risk of complications.

“Australia's hypertension guideline recommends testing for PA in people with poorly controlled hypertension, so doctors need to go through the hassle of switching medications which may deter them from testing at all.

“Our study suggests testing be done early before [drug treatment \[https://www.afr.com/work-and-careers/management/australians-find-a-simple-new-way-to-treat-high-blood-pressure-around-the-world-20180814-h13xm0\]](https://www.afr.com/work-and-careers/management/australians-find-a-simple-new-way-to-treat-high-blood-pressure-around-the-world-20180814-h13xm0) starts,” she says.

It involved adults with newly diagnosed hypertension, screened for PA by GPs between 2017-2020 and were not taking medication.

Dr Edward Tsui, a GP involved in the study, was surprised when six of his 60 patients were diagnosed with PA. He agrees there is a need to review current guidelines for initial hypertension management.

Jill Margo is the health editor. She writes about medicine and health from the Sydney office. Jill has won multiple prizes, including two Walkley Awards and is an adjunct associate professor at UNSW Sydney, St Vincent's Clinical School. *Connect with Jill on [Twitter](#). Email Jill at jmargo@afrc.com*