



Hypertension

Aldosterone and Renin

Hypertension, also known as high blood pressure (HBP), is very common in adults. Around the world, nearly one billion people with hypertension die, with nearly 8 million deaths each year. In 2014, the Thai population aged 15 years and over is characterized by high blood pressure by about 25 percent or about 13 million people. Only 44 percent know that they have high blood pressure. Therefore, the patient did not receive the treatment of hypertension.

Aldosterone is a hormone that plays an important role in maintaining normal sodium and potassium concentrations in blood and in controlling blood pressure. Renin is an enzyme that controls aldosterone production. The kidneys release renin when there is a drop in blood pressure or a decrease in sodium chloride concentration and it stimulates aldosterone production. Overall, this raises blood pressure and keeps sodium and potassium at normal levels.

Aldosterone and Renin as a marker for primary aldosteronism screening

Patients with hypertension that take medicine to lower the blood pressure, but the blood pressure is still high. Doctors often suspect primary hyperaldosteronism. Doctors will screen using aldosterone and renin activity or direct renin. If the result is abnormal, the patient will undergo one or more confirmatory tests such as a dynamic test or a CT scan to definitively confirm or exclude the diagnosis.

There is a specific treatment for primary aldosteronism, if it is caused by a tumor. If the tumor is removed, the blood pressure will be improved. Or, if the adrenal hyperplasia is working on both sides, then medical treatment by aldosterone antagonist drug and blood pressure will be improved.

Primary hyperaldosteronism

1. Aldosterone is HIGH
2. Direct renin or renin activity is LOW
3. ARR (Aldosterone / Renin activity Ratio) is HIGH

Test Name	Code	Schedule time*	TAT**	Specimen
Aldosterone (Blood)	C783	Thu	7 Days	EDTA plasma 1 ml หรือ Serum 1ml
Renin, direct	C784	Thu	7 days	EDTA plasma 1 ml
Aldosterone/Renin,direct ratio	C777	Thu	7 days	EDTA plasma 1 ml

The test should be under the discretion of a physician. | The mentioned test is performed by the laboratory with ISO 15189 certification and lab accreditation.

*This operation schedule is for the test performed at N Health head quarter, Bangkok.

**Above turnaround time does not include logistic time. For BDMS network hospitals, please contact N Health laboratory located at your hospitals.

References

1. <https://www.hfocus.org/content/2016/05/12191>
2. <https://academic.oup.com/jcem/article/101/5/1889/2804729>. The Management of Primary Aldosteronism: Case Detection, Diagnosis, and Treatment: An Endocrine Society Clinical Practice Guideline



[Download N Test from QR Code](#)
 Call Center: (66) 2762 4000
 Fax: (66) 2762 4196
www.nhealth-asia.com