Is aldosteronism really a relatively common cause of hypertension?

Recommendations for screening crucially depend on the diagnostic and therapeutic setting. We do not agree with the authors' statement that aldosteronism is "a relatively common cause of resistant hypertension worldwide."[1] We also disagree with the recommendation to test all patients with uncontrolled hypertension, despite the use of three blood pressure–lowering drugs, for aldosteronism. Three studies of unselected or primary care hypertension were included in the authors' review. The setting of one study was an outpatient clinic of a hospital;[2] another was a hypertension centre.[3] The third study[4] was conducted in a hypertension clinic. In the latter study, the article indicates that 350 unselected adults with hypertension were included. We are sure, however, that there was a selection effect compared with a normal family practice setting.

Impressed by a case of a patient whose hypertensive crises stopped after an operation of a Conn tumour, we conducted an evaluation of all patients with hypertension in two German general practices.[5] In this study, there was no selection, as all patients with hypertension were included.

Of 3107 patients visiting the practices, 564 were diagnosed with hypertension, and 79 were diagnosed with criteria for resistant hypertension. The aldosterone–renin ratio could be measured in 63 of 79. We found only two cases of aldosteronism.[5]

In our study, the percentage rates are too low (0.09% of all patients, 0.5% of all patients with hypertension and 3.8% of those with resistant hypertension) for aldosteronism to be denoted as "common cause."[5]

Some other questions remain regarding the recommendation to search for aldosteronism: Why is it necessary to conduct an aldosterone–renin ratio test? Why not simply treat those patients with spironolactone, which is proven to lower blood pressure?[6] Is it cost-effective to do this laboratory test?

Recently, new evidence was found for a lower prevalence of aldosteronism than suggested.[7] A Dutch group discovered a prevalence of 2.6% in all patients with elevated aldosterone–renin ratio, but only 0.24% in all patients with newly diagnosed hypertension.

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References

1. Kline GA, Prebtani APH, Leung AA, et al. Primary aldosteronism: a common cause of resistant hypertension. *CMAJ* 2017;189:E773-8.
2. Omura M, Saito J, Yamaguchi K, et al. Prospective study on the prevalence of secondary hypertension among hypertensive patients visiting a general outpatient clinic in Japan. *Hypertens Res* 2004; 27:193-202.
3. Fogari R, Preti P, Zoppi A, et al. Prevalence of primary aldosteronism among unselected hypertensive patients: a prospective study based on the use of an aldosterone/renin ratio above 25 as a screening test. *Hypertens Res* 2007;30:111-7.
4. Loh KC, Koay ES, Khaw MC, et al. Prevalence of primary aldosteronism among Asian hypertensive patients in Singapore. *J Clin Endocrinol Metab* 2000;85:2854-9.
5. Schmiemann G, Gebhardt K, Hummers-Pradier E, et al. Prevalence of hyperaldosteronism in primary care patients with resistant hypertension. *J Am Board Fam Med* 2012;25:98-103.
6. Batterink J, Stabler SN, Tejani AM, et al. Spironolactone for hypertension. *Cochrane Database Syst Rev* 2010;(8):CD008169.
7. Käyser SC, Deinum J, de Grauw W, et al. Prevalence of primary aldosteronism in primary care: a cross-sectional study. *Br J Gen Pract* 2018;68: e114-22.

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