Drug-resistant hypertension (RH) is defined as uncontrolled blood pressure (BP) despite treatment with at least three drugs or controlled BP using four or more antihypertensive medications, including diuretics, at maximum or maximally tolerated doses [1]. Primary aldosteronism (PA) is the most common underdiagnosed and undertreated cause of RH, prevailing in about 20% of hypertensive patients [2–4]. Therefore, the prevalence of hypertension-mediated organ damage (HMOD) is higher in patients with PA in comparison to essential hypertensive patients of the same age and same BP level [5]. Owing to the poor clinical awareness of PA, with ensuing “under suspicion,” unduly complex diagnostic workup, [4,6] limited availability of invasive investigations for localizing unilateral PA (uPA), constrained surgical capacity, and uncertainties about clinical outcomes [4]. Timely diagnosed and treated uPA can provide not only a cure for HT but also prevention of HMOD.

The case detection for HT patients with a high probability of PA relies on measuring the aldosterone-to-renin ratio (ARR) [6,7]. Confirmatory tests purposed for these ARR-positive patients comprised the captopril challenge test, the fludrocortisone suppression test, the saline infusion test, the oral sodium loading test, and the furosemide upright test [4,8]. Confirmatory tests might be skipped for the diagnostic procedure simplification since neither test furnished a diagnostic gain over carefully performed baseline ARR [9,10]. Bilateral aldosteronism should prompt appropriate medical treatment, including mineralocorticoid receptor antagonists; in contrast, uPA potentially can be cured by adrenalectomy, and to distinguish excess aldosterone secretion side, adrenal vein sampling (AVS) plays a crucial role [11]. However, the AVS is technically challenging and performed only in a few tertiary referral centers of developed countries, even though tertiary centers perform AVS under different protocols. Moreover, carefully performed AVS also did not provide a final diagnosis of PA. The gold diagnostic standard relies on the biochemical cure of PA patients after adrenalectomy retrospectively, including normalized plasma aldosterone concentration and renin concentration with a further normalized aldosterone-to-renin ratio [12].

Recognizing the critical association with uncontrolled blood pressure levels, Mongolia, facing the highest stroke rate globally, emphasizes the alarming prevalence of hypertension (HT) at 46.5% in the latest randomized cross-sectional study. Uncontrolled hypertension, identified as the most common risk factor for ischemic heart disease and stroke – the leading causes of death in Mongolia’s adult population – underscores the need to diagnose secondary causes.
of hypertension. Given the potential underdiagnosis of PA in Mongolia, adopting the latest diagnostic procedures for PA is crucial to prevent HMOD. Furthermore, Enkhtungalag et al.'s [13] research reveals a concerning trend in Mongolian salt consumption, exceeding WHO recommendations by more than two times. This excessive salt intake, coupled with under diagnosed PA, poses severe consequences on the heart and arterial walls, including volume expansion, renin suppression, increased cardiac preload, left ventricular hypertrophy, atrial fibrillation [14], and an elevated risk of stroke.

In conclusion, recognizing the need for a more in-depth study, it is essential to investigate whether Primary Aldosteronism is a hidden cause of resistant hypertension in Mongolia. This additional inquiry would contribute to a comprehensive understanding of the factors contributing to the high prevalence of hypertension and associated cardiovascular risks in the Mongolian population.

References