Improve the Hypertension Management

Ask for LIAISON® Aldosterone and LIAISON® Direct Renin Assays
Improve the Hypertension Management
DiaSorin “The Solution”
Hypertension is a major risk factor for cardiovascular disease morbidity and mortality including myocardial infarction, congestive heart failure, stroke, renal disease and dementia.

Their blood pressure usually remains above 140/90 mmHg despite the appropriate lifestyle measures and the provision of at least 3 anti-Hypertensive drugs.

Res-HTN has been associated with a 1.1-3 fold increase in the risk of cardiovascular events.

Primary aldosteronism is a type of hormonal disorder that leads to high blood pressure. Currently, PA is detected late and hypertension-related events are estimated after a 12 years period.

Even in individuals presumed stable, LESS THAN 1/3 are protected from subsequent strokes and hearth attacks.

- \(~31\%\) of the population are HYPERTENSIVE (HTN)
- \(10-30\%\) of hypertensive patients are RESISTANT HYPERTENSIVE (res-HTN)
- \(10-20\%\) of Res-HTN patients have PRIMARY ALDOSTERONISM (PA)
Diagnosis and treatment of hypertension

A key to success in reducing mortality

Early diagnosis of PA leads to the administration of effective treatments, which can reduce the impact and improve prognosis.

WHAT WE CAN DO

100% res-HTN patients tested

Test all res-HTN patients with Aldosterone and Direct Renin Assays for a rapid Primary Aldosteronism (PA) diagnosis.1,5

TODAY <4% res-HTN patients tested

Too few Direct Renin/PRA and Aldosterone tests are prescribed by Specialists to exclude PA, leaving Renovascular Hypertension undiagnosed and untreated.

Patients stay in limbo with increasing health risks
The latest publication from Williams and Reincke underline the diagnostic approach for the management of PA already focused in the 2016’s guidelines, highlighting the importance to screen the patients for the correct diagnosis of PA and define the Aldosterone-Renin-Ratio (ARR) at a very early stage of the diagnostic workup.

**Laboratory testing & diagnostic workup**

Measurement of plasma aldosterone concentrations (PACs) and direct renin concentration (DRC) to assess the ARR is the most reliable currently available method of screening for PA.
The power to discriminate using the ARR

Use of the ARR is:
• more sensitive than measuring potassium, aldosterone, alone
• also more specific than measuring renin alone

ARR: Good separation

LIAISON® ARR
Several publications are supporting the usefulness of defining the ratio between aldosterone and renin (ARR) to screen the patients with reliable immunoassays. Two important studies have been selected:
The study from J. Burrello et al. based on 100 hypertensive patients with suspected primary aldosteronism. The algorithm shows the patient selection and that 34/100 underwent confirmatory testing with saline salt loading or captopril test.

100 patients referred to the specialized hypertension center underwent screening testing.

34 patients

- Positive to one screening test (CLIA or RIA)

66 patients

- Negative to both screening tests (CLIA and RIA)

34 patients underwent confirmatory testing.

- 20 patients with positive confirmatory test (both CLIA and RIA)
- 5 patients positive to one confirmatory test (CLIA or RIA)
- 9 patients with negative confirmatory test (both CLIA and RIA)

- Excluded as undefined
- Excluded as EH

20 patients underwent subtype differentiation by CT scanning and adrenal venous sampling.

- 5 patients with aldosterone-producing adenoma (APA)
- 15 patients with idiopathic hyperaldosteronism (IHA)
The Author concluded that the use of immunoassays like the LIAISON® Aldosterone and LIAISON® Direct Renin display satisfactory accuracy in the detection of primary aldosteronism.

Another study published by G.P. Rossi9 again confirmed the importance of the ARR in the patient workout. In this study 254 patients have been enrolled and 67.3% had primary hypertension, 17.3% an APA and 11.4% IHA, 2.4% renovascular hypertension (RVH) and the remaining 1.6% to other clinical hypertensive conditions like familial hyperaldosteronism (FH-1) or apparent mineralcorticoid excess (AME). Results are classified per patient disease comparing baseline values and depict after captopril testing.

The author concluded after an in depth discussion that the testing and the definition of the ARR, in patients adequately prepared from the pharmacological standpoint, when samples are properly collected and handled under carefully standardized conditions, the diagnostic performance of the ARR can be adopted in a wide range of clinical conditions.
DiaSorin Direct Renin and Aldosterone testing

The LIAISON® Direct Renin\textsuperscript{8,9,10} is:

- **Reliable**
  - standardized to WHO IRP 68/356; provides accurate results to assist clinicians in the management of hypertensive patients

The LIAISON® Aldosterone\textsuperscript{8,9,11,12} is:

- **Reliable**
  - quantitative determination of aldosterone in human serum, plasma and urine specimens

- **Efficient**
  - simpler, faster, reproducible good alternative to Plasma Renin Activity (PRA) assays

- **Efficient**
  - easier than mass spectrometry, faster and reliable with reduced intra laboratory variability and results

- **Flexible**
  - highly suitable to improve laboratory workflow

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AVAILABLE ON LIAISON® SYSTEMS
LIAISON® Direct Renin and LIAISON® Aldosterone tests for PA’s early diagnosis

The new combination of LIAISON® Direct Renin and LIAISON® Aldosterone automated assays allows meaningful PA diagnosis with a comparable specificity and sensitivity to existing methods.

When applying the proposed cut-off for ARR at 10-12 ng/dL/μIU/mL provided by LIAISON® kits you can be assured of a higher sensitivity with comparable specificity to existing methods.

Patients with values greater than the selected ARR must be referred to an Hypertension Specialist for further PA investigation with confirmatory testing.

AVAILABLE ON LIAISON® SYSTEMS

Product availability subject to required regulatory approval
References

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