Management of Primary Hyperaldosteronism: Updated Guidelines

By Dr. Shaghayegh Alibadi-Wahle
American Association of Endocrine Surgeons, American Association of Clinical Endocrinologists, American College of Surgeons

The Endocrine Society’s new guidelines in the management of primary hyperaldosteronism were recently updated. They differ significantly from previous years in that they highlight the higher prevalence (5-10%) of this disorder in hypertensive patients. Furthermore, the guidelines underscore the fact that patients with primary hyperaldosteronism have a higher cardiovascular/hemorrhagic morbidity and mortality than age and gender matched patients with essential hypertension for the same degree of blood pressure elevation. Even with optimal blood pressure control, patients remain at increased cardiac risk as long as the hyper-aldosterone state persists. Therefore, assertive screening and treatment should be considered in high risk patients with resistant or early onset hypertension, adrenal lesions, hypertension and sleep apnea or hypokalemia. The absence of hypokalemia should not discourage an evaluation because only 9-37% of patients will demonstrate this.

5-10% of hypertensive patients will exhibit primary hyperaldosteronism

Aldosterone/renin ratio is used as a screening test after the correction of hypokalemia and the discontinuation of medications that may falsely impact results, such as spironolactone or eplerenone. A positive screening test is most often followed by a confirmatory test. To distinguish between unilateral and bilateral disease, the work up should include a CT of the abdomen and adrenal vein sampling. The latter can impact management in up to 50% of patients and is an integral part of the evaluation in patients over the age of 35 years. In cases of unilateral hypersecretion, the cortisol adjusted aldosterone level is often four times greater than the silent side.

Adrenalectomy is recommended in patients with unilateral aldosterone hypersecretion and results in normalization of hypokalemia. Postoperatively, hypertension is cured in up to 60% of patients and improved in the remainder. Duration of disease and delays in diagnosis are significant factors in response following surgery. Medical management with mineralocorticoid receptor antagonists is recommended in patients with bilateral adrenal disease.

Greater awareness of this disorder may allow for more optimal management of some patients suffering from resistant hypertension.

Sources

Management of Thyroid Nodules and Well Differentiated Thyroid Cancer
By Dr. Shaghayegh Alibadi-Wahle

The American Thyroid Association in 2015 and the American Association of Clinical Endocrinologists in conjunction with American College of Endocrinology in 2016 have published updated guidelines in management of thyroid nodules. Their recommendations are certainly timely and relevant, given that between 2010 and 2020, diagnosis of new thyroid cancers has been estimated to double.

The guidelines emphasize that the high prevalence of thyroid nodules, most of which are benign, calls for a more detailed risk stratification of imaging. A tiered system consisting of benign, very low suspicion, low suspicion, intermediate suspicion and high suspicion classification is suggested with an associated risk of malignancy ranging from less than 1% in benign patterns to 70—90% risk of cancer in highly suspicious lesions. This classification, along with size of the nodule, can guide in decision making regarding further evaluation with fine needle aspiration, which remains the procedure of choice in the evaluation of thyroid nodules.

For lesions that ultimately prove to be benign, routine TSH suppression therapy in iodine sufficient populations is not recommended. Operative intervention is a reasonable consideration in benign lesions that are greater than 4 cm, enlarging, or causing compressive symptoms. Though surgery remains the mainstay of treatment for malignant nodules, active surveillance can be considered for sub-centimeter, micro-papillary carcinomas with low risk features in patients with significant co-morbidities and those with relatively short life expectancy.

For uni-focal, low risk (1-4 cm, without extrathyroidal extension or clinical evidence of lymph node metastases) thyroid cancers, thyroid lobectomy, or total thyroidectomy may offer similar survival in carefully selected patients. Patient preference and risk of recurrence are among factors that are considered in the decision of the extent of surgery. Cervical lymph node metastasis is identified in 20-50% of differentiated thyroid carcinomas, 20-30% of which can be identified with preoperative ultrasound neck mapping and FNA. Also of relevance, the association between higher surgeon volume and a more complete oncological approach with a lower operative complication rate is highlighted by the guidelines and other recent literature. These recommendations stress a mindful approach in evaluation and treatment of well differentiated thyroid malignancies.

Sources
BR Haugen et al, 2015 American thyroid association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. Thyroid 2016, 26 (1):1-133.
Alden incidentalomas are discovered as a result of imaging for other indications in 4-5% of patients and their incidence increases with age. Overwhelmingly, they represent benign, non-functioning adrenals and surgical intervention is reserved for large (>4cm), enlarging or functional masses. In 5-20% of incidentalomas, a mildly increased secretion of cortisol has been documented in the absence of clinical symptoms.

In this group, the term Subclinical Cushing’s Syndrome (SCS) has been defined as the abnormal response to at least two standard tests of the hypothalamus-pituitary-adrenal axis without the usual clinical signs of Cushing’s. It is the most frequently detected endocrine abnormality in patients with adrenal incidentalomas and has been linked to some of the same long-term health issues as Cushing’s—diabetes, hypertension, increased cardiovascular risk, dyslipidemia, obesity and osteoporosis.

Those who have disorders potentially attributable to excess glucocorticoid secretion (obesity, recent onset of hypertension, diabetes, and low bone mass) who have well-documented glucocorticoid secretory autonomy may be considered for adrenalectomy.

The first step in testing for SCS is an overnight 1mg dexamethasone suppression test. If cortisol is <1.8 µg/dL then SCS is excluded. If cortisol is >1.8 µg/dL, (some authors suggest a cut off of 3 µg/dL) then a battery of tests including an 8 mg dexamethasone suppression test, glucose tolerance test, urinary free cortisol, ACTH and diurnal cortisol rhythm should be considered. Accurate diagnosis of SCS improves with the increasing number of abnormal results.

Over the last several years the literature, including a recent meta-analysis, has reflected an overall improvement in cardiovascular risk factors including hypertension (67%) and diabetes (52%) in patients undergoing adrenalectomy. The data on postoperative improvement in obesity, dyslipidemia and bone health is encouraging, but remains more mixed.

In the absence of prospective randomized studies, it is important to consider that younger patients and those who have disorders potentially attributable to excess glucocorticoid secretion (obesity, recent onset of hypertension, diabetes, and low bone mass) who have well-documented glucocorticoid secretory autonomy may be considered for adrenalectomy. Improvement or reversal of many of the usual markers are frequently found following adrenalectomy in patients with SCS.

Sources

Management of Primary Hyperparathyroidism: Can We Do Better?
A Sharada MD, T Kelly BS, Y Rozenfeld, C Hammill MD, E Schuman MD, J Carlisle MD & S Alabadi-Wahle MD

Abstract in the American Surgeon 2017

Background
Challenges in following national guidelines for management of various diseases has been previously established.

Methods
A large primary care group was surveyed to determine their familiarity with the 2009 National Institute of Health consensus recommendations for management of primary hyperparathyroidism. Retrospective review of the group’s records (2009-2011) was performed to verify compliance.

Results
Survey respondents included 109 clinicians, 31% were familiar with all criteria for surgical intervention in asymptomatic patients and 34% correctly identified appropriate surveillance testing for patients undergoing observation. Chart review identified 124 patients with primary hyperparathyroidism. Thirty-four percent of patients who met NIH criteria had a parathyroidectomy. Younger age, higher intact parathyroid hormone, hypercalcemia, and history of nephrolithiasis were associated with surgery in multivariable analysis. Of the observed patients, 16% had appropriate surveillance studies.

Conclusions
This study confirms suboptimal adherence with consensus recommendations in treatment of primary hyperparathyroidism. Collaboration and educational efforts may improve management of patients with primary hyperparathyroidism.

This study was supported by a grant from the Inter-hospital Physicians Association.

How Our Endocrine Surgeons Rate to National Benchmarks for High Volume Centers
Whole Body Scan Uptake of Thyroid Cancer Patients Post-surgery

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Surgical Cure Rate of Patients with Primary Hyperparathyroidism
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How Our Endocrine Surgeons Compare to National Benchmarks for High Volume Centers