IN THIS ISSUE:
- Trends in Thyroid Cancer
- Genetic Markers in Thyroid Cancer
- Primary Hyperaldosteronism
- Treatment Strategies for Primary Hyperparathyroidism: What is the Cost?

FEATURING: ENDOCRINE SURGERY

The Gastrointestinal & Minimally Invasive Surgeons team at The Oregon Clinic has a 20 year history of program, procedure, and instrument development. All 15 partners believe that true mastery of practice requires a dedication and focus on a defined field of surgery:

- Endocrine Surgery
- General Surgery
- Colon & Rectal
- Gastric & Esophageal
- Liver, Biliary & Pancreas
- Vein Treatment

This issue focuses on our Endocrine Surgery team: Dr. Shaghayegh Aliabadi-Wahle and Dr. Richard Jamison.

Trends in Thyroid Cancer
Dr. Shaghayegh Aliabadi-Wahle

Thyroid cancer is the fastest increasing malignancy in both men and women. The incidence of thyroid cancer has more than doubled since 1990 and it is projected that by 2030, thyroid cancer will replace colorectal cancer as the fourth leading cancer diagnosis. Despite the upsurge in incidence of thyroid cancer, the death rate has remained fairly flat. Treatment most often includes a combination of surgery, radioactive therapy and hormone replacement therapy. With appropriate treatment, patients with small early detected tumors can have excellent long term survival. Patients that succumb to this disease typically suffer from rare subsets of the malignancy including anaplastic and medullary carcinoma.

As healthcare providers facing a growing trend in the next decade, our challenge will be to increase efforts in risk stratification of patients with indolent forms of cancer who may benefit from minimally invasive therapies from those with more aggressive disease.

Sources

Indeterminate Thyroid Nodules and Gene Expression
Dr. Shaghayegh Aliabadi-Wahle

Recently, molecular profiling techniques have been used to risk stratify patients with indeterminate nodules and potentially avoid unnecessary procedures. This is accomplished with the help of a gene expression classifier panel (Veracyte Afirma™) which identifies patterns predictive of benign nodules.

Fine needle aspiration (FNA) is currently the diagnostic test of choice for distinguishing benign from malignant thyroid nodules. However, up to a quarter of FNA specimens are associated with an indeterminate cytology and this poses a diagnostic challenge. Within this indeterminate group, patients with atypical follicular lesions of undetermined significance and follicular/Klatskin cell neoplasms have had an associated 5 to 30% risk of malignancy and often require additional diagnostic interventions such as repeat FNA or thyroid lobectomy.

In order to provide a less invasive and potentially less costly alternative, certain high volume practices, including ours, now offer genetic risk stratification to patients with indeterminate nodules. At the time of the original FNA or at follow-up FNA, a small amount of additional sample is collected for possible future gene expression analysis. This is associated with minimal additional risk and inconvenience to the patient. Nodules which ultimately prove to have an indeterminate cytopathology are then further classified as benign or suspicious based on the additional testing. “Suspicious” nodules have a 40% risk of malignancy and benefit from surgical intervention. In contrast, nodules classified as “benign” are associated with less than 6% risk of malignancy and most can undergo surveillance.

There are also new promising data recently presented at the American Association of Clinical Endocrinologists meeting that use a combination of the ThyraMIR microRNA gene expression classifier with the genetic mutation panel ThyGeNiX (Interspace Diagnostics) to differentiate between benign and malignant nodules in indeterminate cases. The additional information provided by these tests is exciting in that it may help guide clinical management and potentially avoid “diagnostic” surgery.

Sources

Refer Your Patients - Your Way
www.oregonclinic.com/refer
(503) 925-3122
Background

Hypertension is a major health concern affecting roughly 70 million Americans. The vast majority of patients have primary or “essential” hypertension and treatment is aimed at lifestyle changes and appropriate use of antihypertensive medications.

Primary hyperaldosteronism (PA) is the most common cause of secondary hypertension, affecting 5-13% of patients with hypertension. Furthermore, aldosterone-specific adverse cardiovascular complications have been described. Primary hyperaldosteronism, also known as Conn’s Syndrome, is defined as hypertension, suppressed renin activity (PRA) and increased serum aldosterone concentration. Increased biochemical screening of hypertensive patients at the Mayo Clinic resulted in a 10 fold increase in the detection rate of PA. Approximately 1/3 of patients with PA have an aldosterone-concentration. Increased biochemical screening for all patients with hypertension.

Who Should Be Screened?

In accordance with AACE and AACE guidelines, we recommend screening for all patients with:
- Resistant hypertension
- Incidental adrenal nodules and hypertension
- New hypertension, particularly in young patients
- Patients with hypertension and hypekalemia should be screened with plasma aldosterone and renin activity (PAC/PRA) testing.
If you have any questions, please contact us at (503) 925-3122.

Diagnosis

The American Association of Endocrine Surgeons (AAES) and American Association of Clinical Endocrinologists (AACE) recommend thresholds of plasma aldosterone to renin ratio ≥ 20 and a plasma aldosterone concentration of ≥ 15 ng/dL for a diagnosis of PA. Confirmatory testing can be performed with oral salt loading or saline infusion testing. Incidentally, hypokalemia is associated with PA but is present on initial presentation in only 40% of cases.

Once the biochemical diagnosis is established, one must differentiate between unilateral adenoma or hyperplasia and bilateral adrenal hyperplasia. High resolution CT scanning using adrenal protocols yields a high sensitivity for adrenal masses. Adrenal vein sampling (AVS) can be safely performed by dedicated and experienced radiologists and yields a high rate of accuracy as a complement to CT imaging. A ratio of ≥4 between sides is indicative of unilateral disease. Both tests are indicated in most patients. Patients under age 40 with a unilateral adrenal nodule < 1cm do not require AVS and can proceed to surgery.

Treatment

Laparoscopic adrenalectomy or, in appropriately selected patients, endoscopic posterior adrenalectomy, is associated with low morbidity and mortality and results in improved hypertension in about 90% of patients. Thirty to 60% of cases will result in cure without need for additional antihypertensives. Success is dependent on timely treatment at a younger age and early in the onset of hypertension.

Sources

Research

• Active clinical and basic science research efforts
• Internal quality assessment and improvement
• Publications include:
  - Three current textbooks
  - More than fifty chapters
  - Over 300 peer reviewed papers

About the Gastrointestinal & Minimally Invasive Surgeons

Dr. Richard Jamison

Innovation

Our group has 20 years of history in program, procedure, and instrument development

Focused Areas of Expertise

We are dedicated to providing high-quality care using the latest technology. Our surgeons focus the following fields of surgery:
- Endocrine Surgery
- Colon & Rectal
- Gastric & Esophageal
- General Surgery
- Liver, Biliary & Pancreas
- Vein Treatment

Active Participation in the Medical Community

- Leadership roles in the most well-respected hospital systems in the Portland metropolitan area
- Leadership roles in regional and national specialty societies

Education

We have four clinical fellowships in:
- Liver and Pancreas surgery
- Minimal invasive surgery
- Foregut surgery
- Colorectal surgery

Meet Our Endocrine Surgeons:

Shaghayegh Alibadi-Wahle, MD, FACS
Residency: Henry Ford Hospital Medical School
Tulane University Regional Director
Oregon Surgery Program

Richard Jamison, MD, FACS
Residency: Mayo Clinic Medical School: Mayo Clinic Executive Vice President, The Oregon Clinic

If you are interested in learning more about a topic in this newsletter, please contact us at (503) 925-3122.