other than known or suspected pituitary disease. The period covered was from January 1 to December 31, 2017. We reviewed all scans; anamnesis and biochemical evaluation was performed on patients who presented PIs. Results: During this period 3894 patients underwent imaging studies. MRI was performed in 1146 patients, and CT in 2748 of them. Mean age was 53,1 ± 19 years, with similar gender distribution (50.6% women). Most imaging studies where ordered in the emergency department (43%), followed by the outpatient clinics (29%) and inpatient wards (28%). Most common reasons that led to request the image were trauma (20.4%), headaches (11.3%) and stroke (10.9%). We detected two PIs, which accounts for a prevalence of 5 cases per 10,000 individuals per year (0.05%). Both where detected by CT, with a MRI done later to further evaluate them. Final diagnosis was of a vascular aneurysm and a sellar meningioma. Work-up showed a secondary hypothyroidism in the patient with the sellar meningioma. No cases of pituitary adenomas were found. Discussion: We observed a strikingly lower prevalence of PIs than that reported in the literature. In addition, no PIs where found in MRI. Moreover, no pituitary adenoma was discovered. The reasons for these findings are unknown. In our study scans were not focused to the pituitary fossa so small lesions may have been missed. However, Esteves et al(1) reported a prevalence of PIs 5.8% in 1232 patients who had head MRI/CT, not pituitary MRI. In addition, the majority were pituitary adenomas, almost 40% of them microadenomas. Slices of 2-mm thickness were obtained in the scans, similar to imaging techniques used in other studies. Most reports have longer study duration (3-5 years).Our hospital is a teaching hospital where fellows evaluate scans initially, which are then reevaluated by neuroradiologists. This may account for the prevalence found, as sensitivity may be lower when professionals in training evaluate scans. In addition, frequency of pituitary hipointensity areas may decrease as the number of reviewers increase. Furthermore, this low prevalence could be related to difference in population characteristics.Conclusions: We found a very low prevalence of PIs in our hospital. More studies are warranted to further investigate frequency of PIs in our country. (1)Esteves et al. Pituitary. 2015;18(6):777-81.

Healthcare Delivery and Education

EXPANDING CLINICAL CONSIDERATIONS FOR PATIENT TESTING AND CARE

The Implementation of a Scholarly Activity Curriculum: Impact Assessment

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MON-120

Introduction:
As detailed in the 2018 ACGME Common Program Requirements statement for fellowship institutions, "The physician is a humanistic scientist who cares for patients. This requires the ability to think critically, evaluate the literature, appropriately assimilate new knowledge, and practice lifelong learning." Endocrinology fellowship programs are tasked with the expectation of creating an environment that fosters scholarly pursuit. It is under the discretion of each program to consider its institutional resources and community needs in order to meet this ACGME requirement.[1]
With the goal of enhancing trainee scholarly activity, our fellowship program created a Scholarly Activity Curriculum in 2017. The core curriculum pillars include delineating a yearly timeline of objectives and expectations, facilitating regular individual mentoring, permitting allotment of protected time, and advocating involvement in faculty scholarship and national conferences.
Objective:
To assess the impact of the 2017 Endocrinology Fellowship Scholarly Activity Curriculum with respect to its ability to increase trainee scholarship.
Methods:
The scholarly activities of the fellowship classes of 2017-2020 were extracted from archived Fellow Scholarly Activity Update presentations and exit-interview curricula vitae. The activities were categorized as conference presentations (oral/poster), basic scientific research, clinical scientific research, quality improvement, book chapters, review articles, case reports, and teaching activities. With the 2017 and 2018 classes representing the pre-curriculum study group and the 2019 and 2020 classes representing the post-curriculum study group, the number of activities per study group per scholarly category were tabulated and compared.
Results:
An increase in scholarly activity was noted in five of the delineated categories: conference presentations (80%), clinical scientific research (86%), review articles (100%), case reports (100%), and teaching activities (38%). The remaining three categories of basic scientific research, quality improvement, and book chapters showed no change.
Conclusions:
The implementation of the 2017 Endocrinology Fellowship Scholarly Activity Curriculum was associated with a rise in trainee scholarly activity. Four of eight categories showed an 80% or more increase. Interestingly, the fellows involved in basic scientific research both pre and post-curriculum implementation were limited to those in the Specialty Training and Advanced Research (STAR) Program. Finally, identifying the need to increase involvement in quality improvement research, our program has implemented a 2019 Quality Improvement Curriculum.
[1]Common Program Requirements (Fellowship). ACGME. https://www.acgme.org/What-We-Do/Accreditation/Common-Program-Requirements. 2018. Accessed Nov 2019.

Thyroid

THYROID NEOPLASIA AND CANCER

Thyroseq V3 GC for Bethesda III and IV: An Institutional Experience

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MON-498

Background:
Molecular testing of thyroid nodules classified as indeterminate on fine-needle aspiration (FNA) is used for patient management. ThyroSeq® v3 genomic classifier is a commercially available test that examines a wide spectrum of genomic alterations in a thyroid FNA sample based on algorithmic analysis and reports test results as either negative (including currently negative) or positive. This study reviews our institutional experience with Thyroseq® V3 to distinguish between benign disease versus cancer in thyroid nodules diagnosed as Bethesda III or IV on cytology.
Methods:
Thyroid nodules with Bethesda III or IV cytology diagnoses and available Thyroseq® V3 results from 12/17 to 8/19 were retrieved from the pathology database. Cytopathology diagnoses were correlated with molecular testing and histopathology.
Results:
416 cases (Bethesda III n=252, Bethesda IV n=164) were retrieved: 295 (71%) were reported as Thyroseq® V3 negative and 121 (29%) as positive. The 82.1% (207/252) benign call rate (BCR) of Thyroseq® v3 for Bethesda III was significantly higher (p<0.001) than that for Bethesda IV, BCR 54% (88 /164). Histopathologic follow-up was available for 128 cases (96 ThyroSeq® v3 positive, 32 ThyroSeq® v3 negative): 57 benign and 71 malignant (including NIFTP). For Bethesda III and IV diagnoses respectively, the test demonstrated 91.7 % (95% Cl 73%-99%) and 91.5% (95% Cl 80%-98%) sensitivity, 94% (95% Cl 90%-97%) and 82.4% (95% Cl 74%-89%) specificity, 99% (95% Cl 96%-99%) and 95% (95% Cl 89%-98%) negative predictive value and 63% (95% Cl 50%-74%) and 70.5% (95% Cl 61%-79%) positive predictive value, given malignancy rates 10% Bethesda III; 32% Bethesda IV. 45 unique combinations of genetic alterations were detected in the 96 operated ThyroSeq® v3 positive cases—34 combinations (76%) were present in <2 cases and only 3 combinations occurred 7 or more cases. Forty-six (48%) nodules had RAS mutations, either combined with other mutations 31% (23/30, 77% malignant) or alone, 17% (10/16, 63% malignant), followed by
THADA/IGF2BP3 gene fusion changes,11.5% (10 /11 malignant). Three cases with BRAF mutations (1 V600E, 1 K601E, 1 K601N) were malignant. Copy numbers alterations alone were present in 10 (5/ 10 malignant) and the gene expression profile alone was positive in 5 cases (all malignant). Mutations that were associated with benign pathology were PTEN, DICER1, E1F1AX and TP53. There were 6 false negative cases, 5 low risk cancers by American Thyroid Association criteria and 1 NIFTP.
Conclusion:
The high BCR of Thyroseq® v3 for Bethesda III category avoids surgery for majority of patients. A more comprehensive mutational and fusion panel reveals the complexity of the genetic signature of indeterminate nodules. Future larger and likely multicenter studies will be required to define the associated cancer risk and potential prognosis associated with adjunct molecular testing.

Adrenal

ADRENAL - CORTISOL EXCESS AND DEFICIENCIES

Rates of Illnesses in Patients with Congenital Adrenal Hyperplasia

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MON-158

Background: Classic congenital adrenal hyperplasia (CAH) due to 21-hydroxylase deficiency is the most common cause of primary adrenal insufficiency during childhood and patients are at risk for life-threatening adrenal crisis. In a recent study from our group, we reported gastrointestinal and upper respiratory tract infections as the two most common precipitating events for adrenal crises and hospitalizations across all ages. We also reported 11 incidents of life-threatening hypoglycemic events in children, sometimes accompanied by seizures.
Objective: To evaluate the annual rates of illnesses in patients with CAH.
Methods: We retrospectively reviewed longitudinally collected data over 23 years from 156 CAH patients enrolled in our CAH natural history study (www.clinicaltrials.gov #NCT00250159). Incidence of illnesses and occurrence of stress-dose days were computed per person-years. Incidence rate ratio (IRR) with 95% confidence intervals (CI) were calculated for comparisons.
Results: A total of 2298 visits (1909 for children and 389 for adults) were available for evaluation among the 156 patients (21-OHD: 97.4%). A total of 1870 illness events (1664 in children) were observed in 143 patients (121 children) and 2710 stress-dose days (2460 in children) were observed in 141 patients (120 children) during the study period. The incidence rate of illnesses was higher in children than adults (1.5 *vs.* 0.5 illnesses/person-years, IRR = 3.1, 95% CI 2.7 - 3.6; *P*<.0001) with incidence highest in young patients: 2.5 illnesses/person-years in <3 year olds. Similarly, the stress-dose days were higher in children than adults (2.2 *vs.* 0.6 days/person-years, IRR = 3.8, 95% CI 3.3 - 4.3; *P*<.0001).
Conclusions: Patients with CAH do not appear to have higher rates of infectious illnesses than expected, but remain at risk for life-threatening adrenal crises. As expected, illness rates are higher during childhood than adulthood. Prevention of adrenal crisis is crucial and is best accomplished through repeated age-specific education of patients and caregivers.
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Adrenal

ADRENAL CASE REPORTS II

Primary Adrenal Insufficiency Caused by Underlying Tuberculosis

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