children admitted with DKA, those with pump failure were primarily older (60% above age 12), mostly white (63%), female (57%), from urban areas (78%), and almost 2/3rds had private insurance (60%). Adjusted analyses revealed that compared to DKA admissions without pump failure, pump failure was associated with older age, white race, residing in a rural area, private insurance, and higher income. Pump failure admissions were more likely in western and southern hospitals, otherwise there were no significant differences with respect to hospital characteristics. Compared to DKA admissions without pump failure, DKA admissions associated with pump failure had a longer mean length of stay (2.6 vs 1.5 days) and were more likely to have a higher severity of illness category. **Conclusion:** In this national sample, DKA with pump failure was more often observed among white, privately insured and high income children; these patient characteristics likely reflect the population of youth with diabetes who are more likely prescribed pumps in the US. Admissions for DKA concurrent with insulin pump failure accounted for a minority of pediatric DKA admissions but these admissions were associated with longer lengths of stay and severity of illness. Pump failure has important implications for care and management of children with diabetes.

Thyroid

THYROID NEOPLASIA AND CANCER

Positive Predictive Value of TP53 Variants in Bethesda III/IV Thyroid Fine-Needle Aspirates

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MON-LB88

Introduction: Somatic DNA variants in the tumor suppressor gene *TP53* have been reported in papillary thyroid carcinoma (PTC), Hürthle cell carcinoma (HCC), poorly differentiated thyroid cancer (PDTC), and anaplastic thyroid carcinoma. However, *TP53* variants are uncommon among cytologically indeterminate thyroid nodules, so their positive predictive value (PPV) for malignancy, when identified, is unknown. The original Afirma Xpression Atlas reported genomic variants from the mRNA of 511 genes, including *TP53*. Here we report the PPV of *TP53* alterations among Afirma Genomic Sequencing Classifier (GSC) Suspicious Bethesda III/IV nodules in real-world clinical practice.

Methods: A consecutive cohort of Afirma GSC Suspicious Bethesda III/IV nodules submitted to Veracyte for molecular analysis and positive for only *TP53* alterations by the Xpression Atlas was identified. Local surgical pathology diagnoses were sought with IRB approval. One nodule per patient was included.

Results: Thirty-eight *TP53* variants were present among >13,000 Bethesda III/IV Afirma GSC Suspicious samples. Among the 22 with only a *TP53* alteration, the first 16 consecutive nodules were included (7 nodules were Bethesda III and 9 nodules were Bethesda IV). Local surgical pathology diagnoses were available for 11 of these nodules. Seven nodules (64%) were malignant on surgical pathology: 3 cases of HCC, 1 PDTC, 1 follicular thyroid carcinoma (FTC), 1 follicular variant PTC, and 1 classical PTC. The mean size of malignant nodules was 3.6 cm (range 1-7.7 cm). The remaining four nodules (36%) were benign on surgical pathology, with a mean size of 2.6 cm (range 1.5-4.2 cm). Benign cases included 2 follicular adenomas (FA), 1 Hürthle cell adenoma (HCA), and 1 adenomatoid nodule (AN). Seven different TP53 variants were identified, and only one was observed at least 3 times (*TP53*: p.R248Q in 2 cases of HCC and 1 adenomatoid nodule). Given the small numbers, meaningful estimates of the variants' individual PPVs could not be calculated.

Conclusions: *TP53* variants among Afirma GSC Suspicious Bethesda III/IV nodules are very rare and associated with malignancy in 64% of nodules based on local pathology review. A broad range of both benign and malignant neoplasms, including HCC, PDTC, FTC, PTC, FA, HCA, and AN, were reported among nodules with *TP53* alterations. The prognostic value of finding an isolated *TP53* variant in Afirma Suspicious nodules remains unknown.

Thyroid

THYROID NEOPLASIA AND CANCER

The Initial Dose of ^{131}I as a Potential Independent Predictor for Residual/Relapsed Disease in Pediatric Differentiated Thyroid Cancer

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MON-LB83

Introduction: In the guidelines for management of pediatric Differentiated Thyroid Cancer (DTC) ^{131}I therapy is recommended for treatment of iodine-avid persistent locoregional disease that cannot be resected as well as iodine-avid distant metastases. To date, no consensus has been reached regarding the ^{131}I dose for treatment of DTC in children. We report our institutional experience and highlight the initial dose of ^{131}I as a potential independent predictor of residual/relapsed disease.

Methods: We performed a retrospective analysis of all pediatric patients diagnosed with DTC between 2010 and 2018. The cohort included all patients up to 21 years of age, with minimal length of follow-up of 24 months. The risk stratification was done following the American Thyroid Association guidelines for pediatric DTC. We defined residual/relapsed disease as detectable thyroglobulin and positive anatomical lesions in imaging studies during the follow-up period. The log-rank test was used to evaluate disease-free survival. The P value was set at < 0.05.

Results: Among 59 eligible patients, females were 69.5% (n=41) and males were 30.5% (n=18). The mean age at diagnosis was 16 years (9-21 years). All patients were alive at follow-up (median, 42 months; range 24 to 144 months).