major medical issues in the childhood cancer survivors. This study was performed to investigate the long-term endocrine complications in survivors of pediatric solid tumors. **Methods:** From 2000 to 2018, 402 patients were diagnosed with solid tumors including hepatoblastoma (n = 72), neuroblastoma (n = 117), Wilms tumor (n = 57), Ewing sarcoma (n = 40), osteosarcoma (n = 65), and rhabdomyosarcoma (n = 51) in our institute. Among them, 96 patients (24%) were expired during the follow-up period. Growth profiles and endocrinologic findings were analyzed by retrospective chart review in 306 survivors of solid tumors. **Results:** The median age at diagnosis of primary cancer was 3 years (range, 0 month to 18 years). The mean treatment duration was 11.7 ± 12.6 months, and the mean follow-up duration after cancer treatment was 7.1 ± 4.8 years. Short stature,which was defined by height-SDS below -2.0, was found in 39 patients (12.7%) with the mean height-SDS of -2.59 ± 0.45. Primary hypothyroidism was detected in 19 patients (6.2%), and 15 of them were treated with radiotherapy or ^{131}I-MIBG therapy due to the metastatic neuroblastoma. Sixteen patients (5.2%) developed hypergonadotropic hypogonadism, whereas three patients (1%) were diagnosed with central precocious puberty. Vitamin D deficiency and osteoporosis were found in 4 patients (1.3%) and 3 patients (1%), respectively. Primary adrenal insufficiency was found in one patient who underwent bilateral adrenalectomy because of bilateral neuroblastoma. One patient with rhabdomyosarcoma in the nasal cavity underwent high dose radiotherapy (50.4 Gy) around the tumor site, eventually leading to multiple pituitary hormone deficiency. In multivariable analysis, longer duration of treatment (≥24 months) was associated with the endocrine complications (OR = 3.94; CI 1.41-11.06) and hematopoietic stem cell transplantation was a major risk factor for endocrine complications (OR = 4.70; CI 2.14-10.29). **Conclusions:** Various endocrine complications can occur in survivors of solid tumors in children and adolescents caused by treatment modalities including surgery, chemotherapy, and radiotherapy, rather than the tumor itself. Lifetime monitoring is necessary to detect endocrine consequences such as growth retardation, hypergonadotropic hypogonadism, and thyroid dysfunctions.

Bone and Mineral Metabolism
PARATHYROID HORMONE TRANSLATIONAL AND CLINICAL ASPECTS

Trabecular Bone Score (TBS) in Primary Hyperparathyroidism (PHP): A Useful Tool?

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SAT-405

Abstract: **Background:** PHP is a common disorder, and regardless of being an asymptomatic entity, often leads to bone loss and osteoporosis. TBS is a software-based assessment method of trabecular bone structure of the spine based on the analysis of pixels in dual energy x-ray absorptiometry (DXA) images. The aim of this study was to evaluate TBS measurements in combination with DXA values by searching for more accurate bone fragility risk assessment among PHP patients.
Methods: From June/2017 to January/2019, all patients who met the criteria for PHP diagnosis prior to surgery were selected to take part in this study. Control group was composed by non-family related healthy volunteers. Bone mineral density (BMD) by DXA (DXA; Hologic QDR 4500) at the lumbar spine, total hip, femoral neck, distal third of the non-dominant radius and TBS values by InSight were determined in 64 PHP patients and 63 controls. Total and ionized calcium, PTH, 25-hydroxyvitamin D (25(OH)D), creatinine, alkaline phosphatase, P1NP and CTX were measured in all patients and control group.
Results: Primary hyperparathyroidism patients presented significant lower BMD values in all evaluated sites compared to controls. TBS measurements were also statistically different among PHP patients and controls (mean TBS PHP=1233 vs TBS controls= 1280, p=0.044). Patients and controls didn't differ in age, sex, menopausal state or BMI (body mass index). Osteoporosis diagnosis by DXA analysis was observed in 50% of PHP patients and in 26.6% of controls. Self-reported or image-diagnosed fracture occurred in 15 PHP (23.4%) patients and in 11 (17.5%) controls. Among these fractures, vertebral fracture account for 9 (14%) in PHP group and 4 (6.3%) in controls. ROC curve analysis showed that the TBS value < 1187 is associated to significant high risk of vertebral fracture (sensibility 87.5%, specificity 67.3%) among PHP patients.
Conclusion: TBS, used as a complement to DXA measurements, is a useful tool to better assess fragility risk among PHP patients.

Thyroid
THYROID DISORDERS CASE REPORTS III

Thyroid Tuberculosis - An Unlikely Diagnosis

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MON-482

Background: *Mycobacterium tuberculosis* (MTB) is an aerobic bacillus responsible for the most cases of tuberculous infection. Approximately one-third of the world's population is infected. Tuberculosis (TB) of the thyroid gland is an unusual diagnosis with an estimated prevalence of 0.1 to 0.6%. The thyroid TB can mimic different pathologies (thyroid neoplasms, lymphoma, infectious or granulomatous thyroiditis, Graves' disease or bacterial abscess) and the diagnosis can be easily disregarded, especially in non-endemic countries and if the patient doesn't have systemic symptoms. The fine needle aspiration and histopathological examination, with acid-fast bacilli staining and TB culture, are the gold standard exams.
Clinical Case: A 71-year-old female was referred to our Endocrinology department after a diagnosis of nodular thyroid disease. She had complaints of slight cervical discomfort, with 6 months of duration. She hadn't personal or familiar relevant antecedents. At observation, a movable,