

age, sex, BMI, Laboratory data, Medications, Bone mineral density (BMD) by DXA, Diabetes status and medications pre and post operatively.

Results:

Data collected include 227 patients with solid organ transplants. Out of those, only 88 had BMD evaluation and only 45 had follow up BMD. Out of 88 with baseline BMD, 16 had osteoporosis, 36 had osteopenia and 36 had normal BMD. Although 51 were on Bisphosphonates, many of them did not have follow up DXA scans. 157 were receiving Vitamin D supplementation but very few had levels checked.

A total of 158 patients had Diabetes, with 95 having pre-existing diabetes and 52 were diagnosed post transplantation. The time of onset was unknown in 11 patients. Majority of patients with pre-existing diabetes required intensification of their medications for diabetes to achieve optimal glycemic control.

Discussion

A multitude of factors including type of transplant, individual pre-operative metabolic profiles, choice of immunosuppressive agents and certain infections increase the risk of these metabolic complications. Given the complex post-operative care, issues with immunosuppressive agents and other comorbidities, metabolic bone disease and other complications may go unnoticed and under recognized which may later lead to higher risk of fractures, morbidity and mortality.

Conclusion

This study highlights the importance of monitoring prudently for metabolic changes after solid organ transplantation. Early identification and aggressive management of these complications may help decrease morbidity and mortality related to fractures and sub-optimal glycemic control.

Thyroid

THYROID NEOPLASIA AND CANCER

Nivolumab-Induced Hypothyroidism Is Irreversible in Most Patients

Jee Hee Yoon, MD, Ji Yong Park, MD, A Ram Hong, MD, Hee Kyung Kim, MD, PhD, Ho-Cheol Kang, MD, PHD.

Chonnam National University Medical School, Gwangju, Korea, Republic of.

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Background Thyroid dysfunction caused by the immune checkpoint inhibitor (ICPI) is common, however mild dysthyroidism could occur easily in cancer patients due to other causes. The aim of this study was to investigate the incidence and clinical course of ICPI-induced hypothyroidism requiring thyroid hormone replacement. **Patients and methods** We analyzed baseline and follow up thyroid function tests of cancer patients treated with nivolumab between March 2016 and March 2019 at Chonnam University Hwasun Hospital retrospectively. **Results** Among 265 cancer patients treated with nivolumab therapy, six patients were excluded from the study because they were on thyroid hormone replacement therapy before starting nivolumab therapy. Twenty-one patients (8.1%) newly developed thyroid dysfunction during nivolumab therapy and sixteen patients (6.2%) required thyroid hormone

replacement therapy due to drug-induced hypothyroidism. Cancer diagnoses included lung cancer (n=7), renal cell carcinoma (n=4), malignant melanoma (n=2), hepatocellular carcinoma (n=2), and esophageal cancer (n=1). Six patients (37.5%) showed thyrotoxic phase prior to overt hypothyroidism and the others (n=10, 62.5%) revealed hypothyroidism without thyrotoxic phase. Most ICPI-induced hypothyroidism was irreversible, only one patient was able to discontinue thyroid hormone replacement after quitting nivolumab therapy. **Conclusion** A significant number of patients treated with nivolumab developed ICPI-induced hypothyroidism requiring thyroid hormone replacement and its clinical course was irreversible in most patients.

Adrenal

ADRENAL - TUMORS

Adrenocortical Cancer Is Diagnosed at Large Size and Advanced Stage in a Canadian Referral Center; Focus on Modes of Presentation Depending on Stages

Jonathan Poirier, MD, B. pharm, Catherine Alguire, MD, Nadia Gagnon, MD, Mathieu Latour, MD, André Lacroix, MD, Pierre Karakiewicz, MD, Paul Perrotte, MD, Xuan Kim Le, B. Sc. inf, Harold J Olney, MD, Isabelle Bourdeau, MD.

CENTRE HOSP DE L'UNIV MONTREAL, Montreal, QC, Canada.

SAT-169

Context: Adrenocortical carcinoma (ACC) is a rare tumor with an incidence of 0.7-2 per million. Based on the ENSAT staging classification, tumor stage is the most important prognostic factor; the presence of lymph nodes involvement and metastases is an indicator of poor prognosis. Absence of any local or distant tumor invasion represents an early stage disease and is classified based on tumor size of <5 cm (stage I) or >5 cm (stage II). Advanced disease is confirmed if there is tumoral invasion, either locally in the surrounding tissues/nodes (stage III) or in other organs/vascular structures (stage IV).

Objective: To describe patient characteristics, staging and modes of presentation at initial diagnosis in our cohort of ACC patients.

Methods: We retrospectively reviewed paper and electronic charts of patients with pathology-confirmed ACCs who were treated at our referral center from 1995 to May 2019.

Results: One hundred four patients were diagnosed with ACC: 28 were men (26.9%) and 76 (73.1%) were women and median age was 51 years. The overall modes of presentation were hormonal hypersecretion (40.4%), mass-related symptoms (36.5%), incidentalomas (17.3%) and unknown (1.9%). Hormonal profile was available for 71 tumors: 67,6 % were secreting [androgen and cortisol co-secretion (39.4%), cortisol only (28.2%)] and 18,3% were non-secreting. At initial diagnosis, sixty-four patients (61.5%) had tumors >10 cm including 32.7% between 10-14.9 cm (n:34), 19.2% were 15-20 cm (n:20) and 9.6% were >20cm (n:10). Initial ENSAT stages were I (6.7%), II (17.3%), III (28.8%) and IV (44.2%) and unknown (2,9%). The age repartition was similar for most patients (median ~50 yo) regardless of disease stage or tumor size except in the subgroup of very large tumors (>20 cm) for which the median age was 40 yo. The mode of presentation at initial diagnosis varied at various