SUN-094

**Background:** Leuprorelin (Enantone®) is a gonadotropin-releasing hormone (GnRH) analogue used worldwide to treat central precocious puberty (CPP). This clinical trial aimed to evaluate the long-term safety and efficacy of leuprorelin in treating Chinese CPP children.

**Methods:** This is the first, prospective, open-label, and multicenter study conducted from 2015 to 2018, in China. As a large interventional study, it included a four-week screening period, a 96-week treatment period, and a four-week safety follow-up period. Eligible subjects were treated with leuprorelin subcutaneously once every four weeks for 96 weeks. At the beginning of the study, subjects whose body weight ≥20 kg received a dose of 3.75 mg and those <20 kg received a dose of 1.88 mg and then the dose was allowed to be adjusted during the study based on subject’s condition and investigator’s judgment. The primary endpoint was the incidence of adverse events during treatment, and the secondary endpoint was the percentage of subjects who had regression or no progression in Tanner stage at Week 96 compared with baseline.

**Results:** A total of 307 CPP patients from 11 Chinese medical centers received leuprorelin, of which 305 (99.3%) were girls and 2 were boys (0.7%), with a mean (±SD) age of 7.95±0.982 years and a mean height of 133.68±7.108 cm. Two hundred eighty-three (92.2%) patients completed the 96-week treatment period. Two hundred fifty-two patients (82.1%) reported treatment-emergent adverse events (TEAEs)—most of which (79.5%) were mild to moderate. Only 33 (10.7%) patients experienced TEAEs that were considered related to leuprorelin. The most frequent (>2%) drug-related TEAEs were injection site induration (4.6%, 14/307) and vaginal bleeding (2.3%, 7/305). After the 96-week treatment period, 83.5% female subjects had regression or no progression in Tanner stage compared with baseline. The subjects also had reduced sex hormone levels and bone age/chronological age ratio compared with baseline. The subjects also had increased predicted adult height and BMI after treatment.

**Conclusions:** This Chinese study demonstrated that CPP was effectively treated in most patients who received leuprorelin (Enantone®) for nearly two years. Any drug-related adverse events were reported with low incidence (<5%) and were consistent with the known safety profile of leuprorelin. Leuprorelin was shown to be well tolerated and effective in the management of CPP in Chinese patients.

Neuroendocrinology and Pituitary TUMORS II

The Effects of Cabergoline in Pre-Surgical and Recurrence Periods of Cushing’s Disease Patients

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MON-312

**Background:** Dopaminergic agonist cabergoline (CAB) has been used in pharmacological treatment of Cushing’s disease (CD). The effect is attributed to the frequent expression of subtype 2 dopamine receptor in corticotropin tumors. However, in vivo studies demonstrated normalization of urinary cortisol (UC) in about 30-40% of cases over the long term, mainly after surgical failure. **Objective:** To evaluate the effect of CAB as monotherapy in early preoperative period and on recurrence of Cushing’s disease. **Methods:** A single-center retrospective study was conducted in a tertiary referral center. Twenty-one patients with confirmed CD were included. Median age was 32 years (13-70), 86% female, 10 with microadenomas, 11 with macroadenomas. They were diagnosed from 1986 to 2016 and used CAB as monotherapy either in the preoperative period (n=7, CABi) or in recurrence, before any other treatment (n=14, CABr). It was considered ‘complete response’ a 24h-UC normalization and ‘partial response’ a 24h-UC reduction >50%. UC was obtained on the last follow-up evaluation. Normalization of nocturnal salivary cortisol (NSC) on CAB was evaluated in most cases, as well as the larger tumor diameter by pituitary MRI, before and after CAB treatment. **Results:** Complete response was achieved in 29% (6/21) of subjects after 14.9±16.4 months of treatment with a mean dose of 2.2±1.0 mg/wweek. Partial response occurred in 9.5% (2/21). NSC normalized in 35% (6/17) and no variation in tumor diameter before and after CAB use was observed (n=13): 6.8±6.8 vs. 7.2±7.1 mm, respectively. There was no normalization of UC in CABi at the end of the treatment whereas in CABr, 43% (6/14) of patients reached complete response. CABi group was treated for 4.7±1.9 months and CABr was treated for 20.1±18.1 months. Both groups were on similar doses of CAB (CABi 2.1±0.9 and CABr 2.3±1.1 mg/w). Interestingly, the difference between the groups’ complete response was evident early on 3 months of treatment: no cases in CABi vs. 60% (6/10) in CABr (p=0.035) despite a lower dose in CABr (1.0 vs. 1.5; p=0.008). Normalization of NSC occurred in 20% in CABi and 42% in CABr. **Conclusion:** Normalization of UC and NSC occurred in about 30% of total patients, mainly those who used CAB on recurrence of CD. Due to the small number of subjects in CABi group, the absence of hormone control in this group requires further investigation in order to verify the effectiveness of CAB as primary therapy or as preoperative treatment option.

Thyroid

THYROID CANCER CASE REPORTS I

Metastatic Thyroid Cancer

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SUN-489

Background In many cases, thyroid cancer leads to metastasis; however, isolated metastasis to the liver from thyroid
cancer is a rare event. When this occurs, patients have a very poor prognosis. Case Study A clinical case of a 33-year-old woman, born in Piura and coming from Lima, with no major history, diagnosed with a 4-month-old cervical tumor is presented. An ultrasound scan and a further biopsy were performed before an eventual diagnosis of papillary thyroid carcinoma. Operation was performed, and a classical papillary carcinoma of 0.90 inches was detected, along with macro-metastasis in a parathyroid ganglion. Post-surgical thyroglobulin was 1071 ng/ml (n< 50 ng/ml). The tomography in her lung showed three nodules in the middle lobe. A further dose of 150 millicuries of radioactive iodine (I-131) was given, with whole-body scanning, post positive in both lung fields and right lank pain. The tomography in the abdomen revealed a hepatic pedicle injury, compatible with teratoma. A liver resection surgery was scheduled, and metastatic papillary carcinoma was identified. A V600 mutation in BRAF gene was present in thyroid gland and not detectable in the liver. Conclusions This case shows an example of thyroid cancer with uncommon metastasis in the liver, which occurs in 0.5% of all thyroid metastases. It is even rarer that positive iodine was found. Liver metastasis represents a poor prognosis, however it has been reported that resective surgery offers patients a better chance of survival. Multiple factors influence its pathogenesis, including BRAF mutations. In this case, mutation was detected in thyroid gland, but not in liver metastasis, which could represent diverse BRAF mutations.

Cardiovascular Endocrinology

ENDOCRINE HYPERTENSION AND ALDOSTERONE EXCESS

Aldosterone-Potassium Ratio Predicts Primary Aldosteronism Subtype

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SAT-547

Objective Prediction models have been developed to predict either unilateral or bilateral primary aldosteronism, and these have not been validated externally. We aimed to develop a simplified score to predict both subtypes and validate this externally.

Methods Our development cohort was taken from 165 patients who underwent adrenal vein sampling (AVS) in two Asian tertiary centres. Unilateral disease was determined using both AVS and post-operative outcome. Multivariable analysis was used to construct prediction models. We validated our tool in a European cohort of 97 patients enrolled in a clinical trial. Previously published prediction models were also tested in our cohorts.

Results Backward stepwise logistic regression analysis yielded a final tool using baseline-aldosterone-to-lowest-potassium ratio (APR, ng/dL/mmol/L), with an area under receiver operating characteristic curve of 0.80 (95% CI: 0.70-0.89). In the Asian development cohort, probability of bilateral disease was 90.0% (with APR <5) and probability of unilateral disease was 91.4% (with APR >15). Similar results were seen in the European validation cohort. Combining both cohorts, probability of bilateral disease was 76.7% (with APR <5), and probability for unilateral was 91.7% (with APR >15). Other models had similar predictive ability but required more variables, and were less sensitive for identifying bilateral PA.

Conclusion The novel aldosterone-potassium ratio (APR) is a convenient score to guide clinicians and patients of various ethnicities on the probability of PA subtype. Using APR to identify patients more likely to benefit from AVS may be a cost-effective strategy to manage this common condition.

Tumor Biology

ENDOCRINE NEOPLASIA CASE REPORTS I

Ectopic Cushing Syndrome Due to a Metastatic Neuroendocrine Tumor to the Breast

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SUN-927

Introduction: We present a rare case of ectopic Cushing syndrome (CS) due to a neuroendocrine tumor (NET) metastatic to the breast.

Case: A 38-year-old female was referred for ACTH-dependent CS. She had rapid development of cushingoid features and hypertension three months prior to presentation. A 24-hour urinary free cortisol (UFC) was elevated to 2548 μg (0-50 μg/24hr), and ACTH was 228 pg/mL (10-60 pg/mL). A pituitary MRI was normal, and inferior petrosal sinus sampling was not consistent with a central ACTH source. A DOTA-TATE scan showed mediastinal lymphadenopathy and a 0.8cm area of uptake in the right breast. The patient was placed on ketoconazole and UFC normalized. Following biopsy, she underwent breast lumpectomy at an outside hospital, and pathology showed triple negative invasive carcinoma of the breast. Chemotherapy was initiated. However, her CS rapidly worsened; repeat UFC was 4867 μg, and ACTH was 369 pg/mL. Re-review of her pathology slides at our facility showed that the tumor stained negative for breast markers and positive for markers of NET and ACTH. Ki67 staining was approximately 30%. Chemotherapy for breast cancer was immediately stopped. A follow-up PET-CT continued to show uptake in the mediastinal lymph nodes. FNA of these lymph nodes revealed metastatic NET. In order to maximize control of her CS prior to chemotherapy, she underwent bilateral adrenalectomy (BLA). Afterwards, the patient received 10 cycles of chemotherapy with modified FOLFOX-7 for her NET. Thus far, the tumor burden appears stable, and she