(KJD) is a rare form of cervical esophageal diverticulum that results from anterolateral, mucosal protrusion below the cricopharyngeal muscle. Due to the vicinity of the thyroid gland, this lesion can mistakenly present as a thyroid nodule.

***Case Description*:**A 71-year-old female with a past medical history of invasive ductal carcinoma clinical stage 1A, T1a/bN0M0 grade 1 ER+PR+HER2- with treatment composed of radioactive seed localized partial mastectomy and sentinel lymph node biopsy, whole breast radiotherapy, and anastrozole therapy was referred to an endocrinology clinic for evaluation of a left 1.0 cm thyroid nodule incidentally discovered on a CT without contrast scan conducted for bronchitis. Immediate pre-office TSH level collected was normal at 3.28 mIU/L and thyroid ultrasound (US) demonstrated a left lower lobe 2.0 cm AP x 1.7 cm transverse x 2.1cm cephalocaudad heterogenous, solid, well-circumscribed, microcalcified, TI-RADS 4 nodule. In the endocrinology office, the patient's only symptoms were hoarseness, an improving cough, and neck stiffness. The blood pressure collected was 128/74. Office physical exam demonstrated thyromegaly without nodules. The patient met criteria for a fine-needle aspiration (FNA). A first FNA performed was an uncomplicated biopsy of the lesion, but demonstrated insufficient cellularity on pathology. A second FNA performed was also an uncomplicated biopsy of the lesion, and demonstrated squamous cells, debris material suggestive of vegetable material, and rare benign follicular epithelial cells. Fluoroscopic esophagram was performed subsequently demonstrating a moderate left-sided KJD.

***Discussion*:** While literature exists documenting the etiology, pathogenesis, and medical/surgical treatments for KJDs, only a few case reports exist reporting the resemblance KJDs have with thyroid nodules. This case report hopes to illustrate non-endocrinology pathologies that can mimic thyroid nodules while encouraging current healthcare practitioners to recognize the existence of these conditions so that wasteful diagnostic tests or invasive procedures can be avoided.

Reproductive Endocrinology

CLINICAL STUDIES IN FEMALE REPRODUCTION I

Detection of Serum Macro-Luteinizing Hormone.

Kanako Ogura-Ochi, MD, PhD[1], Koichi Itoshima, PhD[1], Yasuhiko Kamada, MD, PhD[2], Fumio Otsuka, MD, PhD[2].

[1]Okayama University Hospital, Okayama, Japan, [2]Okayama University Grad School, Okayama, Japan.

SAT-LB1

Macromolecules of prolactin (PRL) and thyrotropin (TSH), so called macro-PRL and macro-TSH, respectively, are rarely detected in the patients' serum containing high concentrations of these hormones. The macromolecules are involved in increasing the serum concentrations due to aggregation with the autoantibodies in serum. Here we show a case having macromolecules of luteinizing hormone (LH), possibly due to the complex to immunoglobulin-G (IgG). A 35-year-old Japanese female who has complained menstrual irregularity and had a past surgical history of thyroid cancer was referred to our hospital. Laboratory examination showed an extremely high concentration of serum LH (>200 mIU/ml), while serum levels of follicle-stimulating hormone, estradiol, thyroid hormones, human chorionic gonadotropin, testosterone, and prolactin were all within the normal ranges. MRI study showed a normal pituitary shape without any tumorous lesion. Responses of gonadotropins to LH-releasing hormone (LHRH) stimulation were marginally blunted but showed an LH-dominant pattern such as polycystic ovary syndrome. We suspected the presence of macro-LH because of the divergence between the clinical features and the LH level. Of note, the recovery rate of LH levels after precipitation with polyethylene glycol (PEG) was less than 5%, and the gel-filtration analysis further demonstrated an LH peak slightly earlier fraction than IgG. One case report documented the presence of macro-LH in the serum from a young female patient complicated with autoimmune thyroiditis, suggesting the formation of macro-LH related to some latent autoimmune diseases. To assume macro-LH and to re-examine LH levels after serum precipitation by PEG or protein A/G and fractionation are important to avoid unnecessary treatment to increased LH conditions. In clinical practice, we should suspect the presence of macro-LH, if serum LH levels are unexpectedly high compared to the clinical signs.

Tumor Biology

ENDOCRINE NEOPLASIA CASE REPORTS III

A Mysterious Multiple Endocrine Neoplasia (MEN) Like Syndrome

Myat Han Soe, MD, MHS[1], cheng cheng, MD[2], Chienying Liu, MD[3].

[1]University of California San Francisco, San Francisco, CA, USA, [2]WASHINGTON UNIVERSITY SCHOOL OF MEDICINE, St Louis, MO, USA, [3]University of California, San Francisco, San Francisco, CA, USA.

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Multiple endocrine neoplasia (MEN) is characterized by the occurrence of tumors involving two or more endocrine glands in a single patient. Among the four MEN syndromes, MEN4 due to CDKN1B mutation is characterized by parathyroid and anterior pituitary tumors in possible association with tumors of the adrenals, kidneys, and reproductive organs. We presented a patient with MEN 4 like syndrome without CDKN1B, menin or RET mutations.

74 year old male was diagnosed with acromegaly and primary hyperparathyroidism at age 63. Genetic testing revealed no mutations in menin and RET genes. At age 68, he was diagnosed with renal cell carcinoma (RCC) and at age 70, 2cm left adrenal mass was identified on surveillance computerized tomography (CT). No biochemical workup was pursued. Four years later, he developed hypertensive crisis during spine surgery at our institution. Workup revealed elevated plasma metanephrine (490 pg/ml, normal <57) and normetanephrine (1333 pg/ml, normal <148). CT showed the left adrenal mass increased in size to 4.5 cm. Family history is negative for any endocrine tumors. He underwent repeat genetic testing. Analyses of