



Articles in *Endocrinology and Metabolism* in 2016

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INTRODUCTION

In 2016, the journal *Endocrinology and Metabolism* published many excellent articles in the fields of clinical and basic endocrinology. I believe that these articles contributed to the increase of scientific knowledge and improvements in the standards of medical care. Updated information is freely available to readers according to our open-access policy. I would like to briefly present the excellent articles published in 2016 in *Endocrinology and Metabolism*.

ARTICLES ON THYROID DISEASE

Lo et al. [1], from the University of the Philippines, performed a retrospective cohort study of 723 patients with well-differentiated thyroid cancer, evaluating their clinicopathologic profiles, ultrasound features, management, tumor recurrence, and eventual outcome over a mean follow-up period of 5 years. Follicular thyroid cancer among Filipinos appeared to behave similarly to other racial groups.

Jeon et al. [2] evaluated the significance of telomerase reverse transcriptase (*TERT*) promoter mutations in Korean patients with classic papillary thyroid cancer (PTC). The prevalence of somatic *TERT* promoter mutations was low in Korean patients with classic PTC. Therefore, the prognostic role of *TERT* promoter mutations may be limited in this patient cohort.

Jauculan et al. [3] identified risk factors for recurrence in the

Philippine population that could potentially be used to identify individuals for whom radioactive iodine (RAI) therapy might be beneficial. They concluded that a tumor diameter ≥ 2 cm and a family history of PTC were significant predictors of recurrence. RAI therapy and low initial titers of thyroglobulin (Tg) and anti-Tg antibody were significant protective factors against disease recurrence among low-risk PTC patients. Park et al. [4] evaluated the genetic predisposition to thyrotoxic periodic paralysis (TPP) in terms of the $\beta 2$ -adrenergic receptor, androgen receptor, and γ -aminobutyric acid receptor $\alpha 3$ subunit genes and found no associations of these polymorphisms with TPP. In another article, doctors from the University of the Philippines also reported that fixed-dose radioiodine was associated with a significantly lower incidence of persistent hyperthyroidism at 6 months after radioactive therapy for the treatment of Graves disease [5]. In an excellent review, Moon [6] comprehensively presented the epidemiological evidence for the associations between cognitive impairment and several endocrine risk factors, including insulin resistance, dyslipidemia, thyroid dysfunction, vitamin D deficiency, and subclinical atherosclerosis. Wiersinga [7], the editor-in-chief of *European Thyroid Journal*, presented a review titled 'Clinical relevance of environmental factors in the pathogenesis of autoimmune thyroid disease.' He concluded that stress may provoke Graves hyperthyroidism but not Hashimoto thyroiditis. Estrogen use has been linked to a lower prevalence of Graves disease. Kwon et al. [8] evaluated the usefulness of measuring thyroid-stimulating antibody at the time of anti-thyroid drug withdrawal

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for predicting relapse of Graves disease. Kim et al. [9] reported that serum triiodothyronine levels were independently associated with metabolic syndrome in 13,496 euthyroid middle-aged subjects. They proposed that longitudinal studies are needed to define this association and its potential health implications.

In the September issue of *Endocrinology and Metabolism*, special reviews on thyroid diseases were published [10-13]. Of particular note, Yi [10] introduced the revised 2016 Korean Thyroid Association guidelines for thyroid nodules and cancers, focusing on the differences from the 2015 American Thyroid Association guidelines in her review. Other reviews and original articles on thyroid disease also appeared in 2016 [14,15].

ARTICLES ON DIABETES, OBESITY, AND LIPID DISORDERS

Choi [16] received the Namgok Award for his work in October 2015, and wrote an excellent review on the impact of organokines on insulin resistance, inflammation, and atherosclerosis. In this review, he stressed that there is emerging evidence that skeletal muscle and the liver also function as endocrine organs that secrete myokines and hepatokines, respectively. Lee et al. [17] wrote a review about how to establish clinical prediction models. They summarized five steps for developing and validating a clinical prediction model: preparation for establishing clinical prediction models, dataset selection, handling variables, model generation, and model evaluation and validation. Oh [18] presented a beautiful review about *in vivo* models for incretin research. She stressed that robust increases in endogenous incretin secretion have been observed in many types of metabolic/bariatric surgery. Therefore, metabolic/bariatric surgery has been extensively studied to elucidate incretin physiology, with a focus not only on the hormones themselves but also alterations in the distribution of enteroendocrine cells and genetic expression levels of gut hormones. Hong et al. [19] studied the effects of short-term exenatide treatment on aortic pulse wave velocity (PWV) in obese type 2 diabetes mellitus (T2DM) patients. They found that short term exenatide use in obese T2DM patients at high risk in terms of cardiometabolic risk factors not only reduced body weight without muscle mass loss or changes in body fat mass, but also improved aortic PWV in accordance with the waist-to-hip ratio. Lee et al. [20] published an elegant study entitled 'The relationship between 10-year cardiovascular risk calculated using the pooled cohort equation and the severity of non-alcoholic fatty liver disease,' and found that among 15,913 participants, increased severity of non-alcoholic fatty liver disease showed a higher correla-

tion with estimated 10-year cardiovascular disease risk when calculated using the pooled cohort equation than when calculated using the Framingham risk score. Tokatli et al. [21] reported the interesting electrocardiographic finding of a prolonged peak and end of the T wave interval in patients with T2DM, and Lee et al. [22] reported the effect of pitavastatin treatment on apolipoprotein B-48 and lipoprotein-associated phospholipase A2 in patients with metabolic syndrome in a randomized controlled study. Son et al. [23] published the associations of waist-height ratio with diabetes risk in a 4-year longitudinal retrospective study. Suh et al. [24] reported that glucose-dependent insulinotropic peptide levels were associated with the development of T2DM in a nested case-control study conducted in a Korean cohort. Bae et al. [25] reported the effects of dipeptidyl peptidase-4 (DPP-4) inhibitors on hyperglycemia and blood cyclosporine levels in renal transplant patients with diabetes. In the second issue of 2016, special reviews about diabetes were published [26-30]. Bae [27] reviewed the cardiovascular safety of diabetic drugs, and Kang and Jung [30] reviewed the cardiovascular effects of glucagon-like peptide-1 receptor agonists. Many articles on the topic of diabetes and obesity were published in the remaining issues of 2016 [31-42].

ARTICLES ON BONE, ADRENAL, AND OTHER ENDOCRINE DISEASES

Elegant and excellent works were published on the topic of bone, adrenal, and other endocrine diseases. Choi [43] reviewed the use of dual-energy X-ray absorptiometry beyond bone mineral density (BMD) determination in the March issue of this year. Choi et al. [44] reported in an original article that serum γ -glutamyl transferase was inversely associated with BMD independently of alcohol consumption. Kim and Cho [45] reported that high levels of serum DPP-4 activity were associated with low BMD in obese postmenopausal women. They found that serum DPP-4 activity was positively correlated with serum calcium concentrations, intact parathyroid hormone, and serum C-telopeptide levels. In the third issue of 2016, an original article was published about osteoporosis and the prevalence of fractures among adult Filipino men screened for BMD in a tertiary hospital [46]. They reported that of the 184 Filipino male patients, 40.2% and 29.9% had osteopenia and osteoporosis, respectively. Approximately 22% of osteopenic men and 32% of osteoporotic men had fragility fractures of the hip, spine, or forearm, a very high prevalent fracture rate. Kim et al. [47] reported the association of higher plasma macrophage migration inhibitory factor (MIF) levels with lower

BMD and higher bone turnover rate in postmenopausal women. In their cross-sectional study, the odds ratio per each standard deviation increment of MIF levels for osteoporosis was 1.32 (95% confidence interval, 1.01 to 1.73). Another review and an original article on bone disease also appeared in 2016 [48,49].

Many interesting articles were published on the topic of adrenal disease. Lee et al. [50] reported the radiographic characteristics of adrenal masses in oncologic patients in the first issue of 2016. From 2000 to 2012, 131 oncologic patients with adrenal incidentalomas were reviewed retrospectively. The receiver operating characteristic curve results suggested that pre-contrast levels of >20 Hounsfield units can be used as a diagnostic reference to suggest metastasis in oncologic patients with adrenal masses. In another original article, the recovery rate of adrenal function in patients with glucocorticoid (GC)-induced secondary adrenal insufficiency (AI) was reported [51]. Adrenal function recovery was frequently achieved in patients with GC-induced secondary AI within 1 to 2 years. Additionally, an incremental cortisol response at the first short Synacthen test may be an important predictive factor of adrenal function recovery. Kim et al. [52] reported the diagnostic role of the captopril challenge test (CCT) in Korean subjects with a high aldosterone-to-renin ratio (ARR). A cut-off value of 13 ng/dL showed the highest diagnostic odds ratio considering plasma aldosterone concentration at 60 and 90 minutes post-CCT, and they concluded that the CCT test may be a reliable post-screening test to avoid hospitalization in the setting of falsely elevated ARR screening tests. Kim et al. [53] reported that the recovery of the hypothalamic-pituitary-adrenal axis was rapid in patients with subclinical Cushing syndrome. The probability of recovering adrenal function during follow-up differed significantly between patients with overt Cushing syndrome and subclinical Cushing syndrome, with significant correlations with the degree of preoperative cortisol excess. Han et al. [54] reported the prevalence of obesity and hyperglycemia in Korean men with Klinefelter syndrome in a Korean Endocrine Society Registry. The prevalence of obesity, defined as a body mass index ≥ 25 kg/m² in Korean men with Klinefelter syndrome, was 42.6%, and testosterone levels were an independent risk factor for obesity and hyperglycemia.

ARTICLES ON BASIC RESEARCH

Kim et al. [55] wrote an elegant review of metabolomics in biomedical research. They reported that the transcriptome does not always correlate with the proteome and that the translated proteome might not be functionally active. Therefore, changes in the

transcriptome and translated proteome do not always result in phenotypic alterations. Unlike the genome or proteome, the metabolome is often called the molecular phenotype of living organisms, and is easily translated into biological conditions and disease states. Yuk et al. [56] wrote a review about small heterodimer partner and innate immune regulation. In another review article, the mechanisms of vascular calcification focusing on the pivotal role of pyruvate dehydrogenase kinase 4 (PDK4) were presented [57]. Recent studies were summarized, showing that PDK4 is an attractive therapeutic target for the treatment of various metabolic diseases. Liu and Herbison [58] reviewed kisspeptin regulation of neuronal activity throughout the central nervous system. They provided a review of kisspeptin actions on neuronal populations throughout the brain, including the magnocellular oxytocin and vasopressin neurons, and cells within the arcuate nucleus, hippocampus, and amygdala. Kang [59] presented a beautiful review, entitled 'Dissecting tumor-stromal interactions in breast cancer bone metastasis.' He showed that the elevated expression of vascular cell adhesion molecule 1 in disseminated breast tumor cells mediated the recruitment of pre-osteoclasts and promoted their differentiation to mature osteoclasts during bone metastasis formation. Ku et al. [60] reported the effects of a high-fat diet and resveratrol on mitochondrial activity in brown adipocytes in an original work. Resveratrol improved insulin resistance, which might be associated with the mitochondrial activity of brown adipocytes. Gavrieli and Mantzoros [61] presented a review of novel molecules regulating energy homeostasis.

CONCLUSIONS

In this editorial, I would like to thank all the scientists who have devoted their effort to *Endocrinology and Metabolism*. I am deeply grateful to all readers, authors, and editors, and to the board members of the Korean Endocrine Society. Their sincere support made it possible to publish many excellent articles. I would like to specially thank Prof. Eun-Jung Rhee, one of our deputy editors, and Hye Yeon Jang, the manuscript editor of the Korean Endocrine Society. I hope that readers will benefit from *Endocrinology and Metabolism*.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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