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Editorial commentary on the special issue of immunology and endocrinology

Board Editorial

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Editorial commentary on the special issue of immunology and endocrinology

Editorial Board

Numerous studies in immunology focus on areas such as cancer immunotherapy, autoimmune disease therapy, neuroimmunoregulation, immune metabolism, and the discovery of novel immune cell subsets. In endocrinology, there is a focus on the prevention and treatment of diabetes, the management of obesity, thyroid disease, kidney disease, metabolic syndrome, osteoporosis, and the application of artificial intelligence in the management of endocrine diseases, *etc.* In the current special issue, we selected nine papers covering diverse topics, including ocular vascular diseases, systemic lupus erythematosus (SLE), pathogenic and pharmacopeial roles of helminth-derived molecules, sepsis-induced acute lung injury (ALI), intestinal immune homeostasis, diet and infectious diseases, postmenopausal osteoporosis, per- and polyfluoroalkyl substance (PFAS) exposure and liver damage, and targeted therapies for acrodermatitis continua of Hallopeau (ACH).

Shi *et al*^[1] summarized the research progress on biological functions of the pericytes and their roles in ocular vascular diseases, such as diabetic retinopathy, choroidal neovascularization, corneal neovascularization, retinopathy of prematurity, and glaucoma, and highlighted potential therapeutic targets for the treatment of ocular vascular diseases.

Chasov *et al*^[2] introduced immunotherapeutic approaches for SLE, including monoclonal antibodies, bispecific antibodies, and chimeric antigen receptor-T cell therapy, and discussed the role of gut microbiota dysbiosis in the development of SLE and therapeutic potential of fecal microbiota transplantation in the treatment of SLE.

Zhang *et al*^[3] reviewed the pathogenic and pharmacopeial roles of helminth-derived molecules in the host, and discussed how these molecules, including excretory/secretory proteases, proteins, miRNAs, lipids, glycans, extracellular vesicles, and other small molecules, interact with the host to regulate immune responses and metabolic pathways,

highlighting the complexity and duality of helminth-host interactions and their implications for parasitology and immunology.

Yan *et al*^[4] reported that medical ozone exhibited therapeutic potential in the sepsis-induced mouse ALI models by increasing survival rates, improving pulmonary function, and reducing neutrophil extracellular trap formation, possibly through the adenosine monophosphate-activated protein kinase/scavenger receptor A1 pathway, offering a novel potential treatment approach for the sepsis-associated ALI.

Li *et al*^[5] investigated the role of gasdermin D, a protein that plays a critical role in cell death and inflammation, in intestinal epithelial cells against bacterial infection using a *Citrobacter rodentium* infection model, and found that gasdermin D, especially through its N-terminal fragment, played a crucial role in defending against intestinal infections, shedding light on its importance in maintaining intestinal immune homeostasis.

Tu *et al*^[6] used data from the UK Biobank, a large-scale research resource containing lifestyle and health information from over 500 000 UK participants, to assess the associations between infectious diseases and the consumption frequency of food groups, and found that frequent consumption of the processed and red meat was associated with an increased risk of infectious diseases, while the consumption of fish, cheese, fruits and vegetables was associated with a lower risk, providing a scientific basis for dietary interventions to reduce the risk of infectious diseases.

Lin *et al*^[7] investigated the role of differentiated embryo-chondrocyte expressed gene 1 (DEC1) in postmenopausal osteoporosis using a murine ovariectomy model, and found that the DEC1 deficiency protected against the ovariectomy-induced bone loss in mice by inhibiting inflammation and osteoclastogenesis, providing new insights into the pathogenesis of postmenopausal osteoporosis and

potential therapeutic targets.

Yan *et al*^[8] reported significant associations of PFAS exposure with the levels of elevated liver enzyme and the risk of liver fibrosis in American adults, highlighting the potential adverse effects of PFASs on human liver health.

Zhou *et al*^[9] summarized the treatment outcomes of targeted therapies for ACH, and found that interleukin-12/23 inhibitors showed the highest frequency of disease improvement, followed by tumor necrosis factor- α inhibitors, highlighting the potential of targeted therapies, especially interleukin-12/23 inhibitors, in the treatment of ACH.

We hope the readers find this special issue interesting and intriguing.

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