# Sex Differences in Dysmetabolic Organ Damage and Senescence



#### Guest Editor: Ayako Suzuki, MD, PhD

Division of Gastroenterology, Duke University Medical Center, Durham, NC, USA.



## **Special Issue Introduction:**

Owing to the obesity epidemic, obesity-related organ damage became a leading health concern across the continents. The prevalence of obesity continues raising globally, even among children and adolescents. In parallel, type 2 diabetes, arterial hypertension, dyslipidemia, cardiovascular disease, nonalcoholic fatty liver disease, and chronic kidney disease (i.e., dysmetabolic organ damage) also continue to rise, significantly impacting society and the healthcare system. Chronic excess energy accumulation in the body system induces systemic cellular metabolic stress, dyshomeostasis, and premature cell/tissue senescence, resulting in declined systemic functional reserve, multiple comorbid conditions, and poor quality of life (QOL). Biological variations in cellular homeostasis and stress response, cell death, immune regulation, and tissue repair and remodeling likely contribute to the development and severity of dysmetabolic organ damage. Increasing evidence suggests that pathways involved in these processes are all regulated by sex hormones and differ significantly in males and females.

Delineating disparities by sex, gender, and reproductive status and their clinical implications is crucial to establishing an approach toward precision medicine in metabolic disorders and improving long-term health outcomes and QOL in this obesity pandemic. This special issue broadly calls for original and review articles addressing disparities by sex, reproductive status, and reproductive health in dysmetabolic organ damage, premature aging, and declining functional reserve. We welcome experimental, translational, clinical, epidemiological, and computational modeling studies, artificial intelligence works using animal data, or electronic health records to this special issue, including but not limited to:

1. Sex differences in organ damage, senescence, and functional reserve and complications (including tumorigenesis)

a. The impact of menopause, hypogonadism, polycystic ovary syndrome, premature ovarian failure, and synthetic hormone use – mechanistic as well as epidemiological approaches;

b. Sex-specific role of immune responses/inflammation in organ damage throughout the lifecycle;

2. Sex differences in tissue repair/regeneration, specifically addressing sex differences and sex hormone regulation in tissue repair/remodeling;

3. Sex-specific therapeutic approaches (diets, exercise, supplements, and pharmaceuticals) or sex differences in treatment responses includes but is not limited to NAFLD, endothelial dysfunction, muscles, cardiovascular disease, and kidney disease;

etc.

# **Benefits to Authors:**

- The APCs (\$600) will be WAIVED;
- Provide Language Polishing Service by Native English Speakers. The fee is undertaken by the journal;
- Enjoy faster publication than regular submissions;
- Authors will be invited as Guest Speakers to our journal webinars. The webinar will be held via Zoom and it will also be broadcast live on Youtube and the Chinese WeChat Official Account, Video Account, Bilibili;
- A special interview will be provided to authors and will be promoted on the journal homepage and all media promotion platforms of both via the journal and publisher;
- Winner(s) of the "Best Paper Award" will be awarded. The reward will be in the form of a cash prize and a certificate.

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#### Journal Introduction:

*Metabolism and Target Organ Damage (M&TOD*, https://mtodjournal.net/, ISSN: 2769-6375) is a journal newly launched in 2021 with fast development in the past few months. It is an international, peer-reviewed, open access interdisciplinary journal which provides an online platform for the publication of clinical, basic, and translational studies. It covers (cardio)-metabolic disorders per se, such as obesity, diabetes, dyslipidemias, arterial hypertension and hyperuricemia in all age groups.



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