栄養学科特別講義

Asymmetric dimethylarginine (ADMA) as a potent cardiovascular risk factor and a promising therapeutic target

（強力な心血管危険因子であり有望な治療標的となるADMA）

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日時：令和5年10月18日(水) 2限

場所：保健福祉学部棟１階　6117講義室

この度、独ドレスデン工科大学血管医学センター血管学研究室長のRoman Rodionov博士をお招きし、栄養学科特別講義を開催致します。博士は、循環器系疾患の発症機構とその治療法の研究者として、また、血管内科学の専門家として活躍されています。本特別講義では、動脈硬化と一酸化窒素の関係についての基礎的な講義から、一酸化窒素合成酵素の内因性阻害剤である非対称性ジメチルアルギニン(ADMA)と動脈硬化の発症機構、ならびにADMA代謝酵素であるジメチルアルギニンジメチルアミノヒドロラーゼ(DDAH)と心血管疾患治療法に関する最新の研究成果についてお話を伺います。教職員・学部学生・大学院生の皆様のご参加をお待ちしております。

備考：本特別講義は、栄養学各論Ⅱの講義と栄養学専攻・栄養学大講座大学院生の特別セミナーを兼ねて実施します。

問い合せ先：保健福祉学部栄養学科　山本登志子　（内線　6209）

Summary

The first part of the talk will be a general lecture for students on atherosclerotic cardiovascular disease (ASCVD), nitric oxide (NO) and endothelial dysfunction, while the second part will be a scientific talk about the role of the potent cardiovascular risk factor asymmetric dimethylarginine (ADMA) in progression and complications of ASCVD. ADMA is an endogenous analogue of L-arginine, which has been identified in multiple epidemiological studies as an independent predictor of cardiovascular events in general populations and in patients in ASCVD. ADMA is produced in our body during degradation of proteins methylated on arginine residues and causes cardiovascular damage by inhibiting NO production by NO synthases. ADMA also forces NO synthases to produce superoxide instead of NO (so called “uncoupling”), which leads to oxidative stress. The two ADMA-metabolizing enzymes DDAH and AGXT2, which were discovered by Prof. Masumi Kimoto and her colleagues at the Tokushima University, are currently being actively investigated as promising cardiovascular drug targets. In my talk I will discuss the epidemiological and experimental evidence for the important role of ADMA in cardiovascular diseases as well as potential therapeutic approaches for ADMA lowering.