Molecular mechanisms of estrogen-mediated vascular protection

Original title / Originaltitel
Molekulare Mechanismen Oestrogen-vermittelte Gefässprotektion

Summary / Zusammenfassung
Despite the clear-cut gender differences in the morbidity of atherosclerosis in the first five decades of life the important role of estrogens for the development of atherosclerosis has recently been subject of much controversy. This controversy is due to the negative results of prospective randomized clinical studies including HERS I, HERS II, and WHI, in which postmenopausal women with and without coronary artery disease were treated during years with so-called “conjugated equine” estrogens and the synthetic progestin medroxyprogesterone acetate. Equine estrogens contain more than 30 different substances, including testosterone and steroids of unknown activity. At the time of inclusion of the study Patients were many years (decades) after menopause and received very high doses of hormones. The recent identification of new targets of sex hormones, including new estrogen receptors and receptor subtypes and the lack of knowledge about their function and regulation indicates that the issue of hormone treatment is far more complex than previously thought. In this project is aimed to identify mechanisms involved in the cardiovascular protective effects of natural sex steroids and to clarify the role of sex steroid receptors in the cardiovascular system in health and disease, particularly that of the novel G protein-coupled intracellular transmembrane estrogen receptor gpER.

Supported by SNSF grants Nr. 58 421, Nr. 58 426, Nr. 108 258 and Nr. 122 504
Weitere Informationen unter http://www.mimed.ch/research/projects/

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Funding Source(s) / Unterstützt durch
SNF (Personen- und Projektförderung), Foundation, Others

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Duration of Project / Projektdauer
Jun 2005 to Dec 2020