ESH WORKING GROUP on ***Endothelins and Endothelial Factors***

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PLANNED ACTIVITIES:

1. COOPERATIVE RESEARCH PROJECTS

Our plan is to render the WG an active forum for cooperation and participation of all members. To this goal a questionnaire will be sent to each member with the aim of making a recollection of the major issues of interest and the methodologies currently used in his/her research group. This information will be shared to all WG members and a call for proposal of new cooperative projects will come soon. Moreover, to this aim we will develop a website within the Society website if the ESH will provide some financial and/or technical support.

2. GUIDELINES

The WG in 2005 released two seminal guidelines papers that were published in Journal of Hypertension: the first focussed on the methodologies for the assessment of endothelial function and dysfunction in the different vascular beds; the second on the feature of endothelial function and dysfunction in different diseases and conditions that are associated with increased cardiovascular risk factors. Both papers appeared to be highly appreciated by the scientific community as shown by the fact that they received an enormous number of citations. However, as time goes by, these guidelines need to be updated and therefore one of the most important future activities of the WG will be to prepare an updated position paper.

3. POSITION PAPER

A Position Paper on 'The Endothelial Function and Dysfunction' will be prepared in the next months by the members of the WG. The layout will be similar to the previous one published in Journal of Hypertension (2005; 23: 7 & JH 2005; 23: 233) in 2005 and therefore it will entail an update both on the methodological aspect and on the the clinical aspects. In particular, attention will be given to novel issues, such as 'microparticles', which have emerged as a promising tool to investigate the endothelial function, and to aspects as, for example, pregnancy that were not considered in the previous paper.

4. EDUCATIONAL MATERIAL

We would like that the WG may promote a comprehensive online educational program, including learning of the basic and advanced aspects of the endothelial dysfunction, dedicated to both young and expert investigators. The proposal of an in-site course will be also discussed between the WG members.

5. NEWSLETTERS

A brief summary of the Position Paper will be arranged for the publication in 'The Scientific Newsletters' of the ESH (printed or online material). Moreover, a quarterly newsletter will be sent to all ESH members to share information and favour interdisciplinary collaboration of researchers working on different research areas.

6. *REGISTRIES*

A registry of the investigators/laboratories working in the field of endothelial function will be instituted with the final aim to provide a framework for applications for funding at the EU level.

7. PUBLICATIONS BY WG MEMBERS

Due to the very large number of publications by the WG members, only few selected publications have been listed here below.

1. Wallace SM, Yasmin, McEniery CM, Mäki-Petäjä KM, Booth AD, Cockcroft JR, Wilkinson IB. Isolated systolic hypertension is characterized by increased aortic stiffness and endothelial dysfunction. Hypertension. 2007; 50: 228-33.
2. Flammer AJ, Anderson T, Celermajer DS, Creager MA, Deanfield J, Ganz P, Hamburg NM, Lüscher TF, Shechter M, Taddei S, Vita JA, Lerman A. The assessment of endothelial function: from research into clinical practice. Circulation. 2012; 126: 753-67.
3. Lüscher TF, Taddei S, Kaski JC, Jukema JW, Kallend D, Münzel T, Kastelein JJ, Deanfield JE; dal-VESSEL Investigators. Vascular effects and safety of dalcetrapib in patients with or at risk of coronary heart disease: the dal-VESSEL randomized clinical trial. Eur Heart J. 2012; 33: 857-65.
4. Lawlor DA, Macdonald-Wallis C, Fraser A, Nelson SM, Hingorani A, Davey Smith G, Sattar N, Deanfield J. Cardiovascular biomarkers and vascular function during childhood in the offspring of mothers with hypertensive disorders of pregnancy: findings from the Avon Longitudinal Study of Parents and Children. Eur Heart J. 2012;33: 335-45.
5. Charakida M, Masi S, Lüscher TF, Kastelein JJ, Deanfield JE. Assessment of atherosclerosis: the role of flow-mediated dilatation. Eur Heart J. 2010; 31: 2854-61.
6. Jiang B, Seddon M, Fok H, Donald A, Chowienczyk P. Flow-mediated dilation of the radial artery is offset by flow-induced reduction in transmural pressure. Hypertension. 2011; 57: 1145-50.
7. Donald AE, Charakida M, Falaschetti E, Lawlor DA, Halcox JP, Golding J, Hingorani AD, Smith GD, Deanfield JE. Determinants of vascular phenotype in a large childhood population: the Avon Longitudinal Study of Parents and Children (ALSPAC). Eur Heart J. 2010; 31: 1502-10.
8. Halcox JP, Donald AE, Ellins E, Witte DR, Shipley MJ, Brunner EJ, Marmot MG, Deanfield JE. Endothelial function predicts progression of carotid intima-media thickness. Circulation. 2009; 119: 1005-12.
9. Natali A, Ferrannini E. Endothelial dysfunction in type 2 diabetes. Diabetologia. 2012; 5: 1559-63.
10. Grassi D, Desideri G, Necozione S, Ruggieri F, Blumberg JB, Stornello M, Ferri C. Protective effects of flavanol-rich dark chocolate on endothelial function and wave reflection during acute hyperglycemia. Hypertension. 2012; 60: 827-32.

11. Martin EA, Prasad A, Rihal CS, Lerman LO, Lerman A. Endothelial function and vascular response to mental stress are impaired in patients with apical ballooning syndrome. J Am Coll Cardiol. 2010; 56: 1840-6.

12. Kränkel N, Kuschnerus K, Müller M, Speer T, Mocharla P, Madeddu P, Bader M, Lüscher TF, Landmesser U. Novel Insights into the Critical Role of Bradykinin and the Kinin B2 Receptor for Vascular Recruitment of Circulating Endothelial Repair-Promoting Mononuclear Cell Subsets: Alterations in Patients with Coronary Disease. Circulation. 2012 Dec 30 [Epub ahead of print].

13. Flammer AJ, Sudano I, Wolfrum M, Thomas R, Enseleit F, Périat D, Kaiser P, Hirt A, Hermann M, Serafini M, Lévêques A, Lüscher TF, Ruschitzka F, Noll G, Corti R. Cardiovascular effects of flavanol-rich chocolate in patients with heart failure. Eur Heart J. 2012; 33: 2172-80.

14. Morgantini C, Stea F, Boldrini B, Duranti E, Ghiadoni L, Natali A. Effect of mild hyperisulinemia on conduit vessel endothelial function: role of noradrenergic activation. J Hypertens. 2012; 30: 720-4.

15. Oliver J. Journal club. Endothelin 1 from the vascular endothelium contributes to blood pressure control. Kidney Int. 2010; 78: 429.

16. De Ciuceis C, Pilu A, Cappelli C, Porteri E, Zani F, Santoro A, Gandossi E, Boari GE, Rizzardi N, Castellano M, Rizzoni D, Agabiti Rosei E. Decreased number of circulating endothelial progenitor cells in patients with Graves'hyperthyroidism. J Endocrinol Invest. 2011; 34: 335-9.

17. Schiffrin EL. Vascular remodeling in hypertension: mechanisms and treatment. Hypertension. 2012; 59: 367-74.

18. McEniery CM, Cockcroft JR. Does arterial stiffness predict atherosclerotic coronary events? Adv Cardiol. 2007; 44: 160-72.

19. Ghiadoni L, Faita F, Salvetti M, Cordiano C, Biggi A, Puato M, Di Monaco A, De Siati L, Volpe M, Ambrosio G, Gemignani V, Muiesan ML, Taddei S, Lanza GA, Cosentino F. Assessment of flow-mediated dilation reproducibility: a nationwide multicenter study. J Hypertens. 2012; 30: 1399-405.

20. Lilitkarntakul P, Dhaun N, Melville V, Blackwell S, Talwar DK, Liebman B, Asai T, Pollock J, Goddard J, Webb DJ. Blood pressure and not uraemia is the major determinant of arterial stiffness and endothelial dysfunction in patients with chronic kidney disease and minimal co-morbidity. Atherosclerosis. 2011; 216: 217-25.

21. Calò LA, Davis PA, Pagnin E, Dal Maso L, Caielli P, Rossi GP. Calcitonin gene-related peptide, heme oxygenase-1, endothelial progenitor cells and nitric oxide-dependent vasodilation relationships in a human model of angiotensin II type-1 receptor antagonism. J Hypertens. 2012; 30: 1406-13

22. Antonello M, Montemurro D, Bolognesi M, Di Pascoli M, Piva A, Grego F, Sticchi D, Giuliani L, Garbisa S, Rossi GP. Prevention of hypertension, cardiovascular damage and endothelial dysfunction with green tea extracts. Am J Hypertens. 2007; 20: 1321-8.