Molecular and cellular characterization of cardiac overload-induced hypertrophy and failure

Umar, S.

Stellingen

1. Integrin stimulation-induced hypertrophy in neonatal rat cardiomyocytes is nitric oxide-dependent *(this thesis).*
2. Activation of nitric oxide synthase-1 in failing right ventricle suggests a role of excessive nitric oxide in the development of failure and activation of MMPs leading to ventricular remodeling *(this thesis).*
3. Reverse left ventricular remodeling following cardiac resynchronization therapy is associated with increased collagen synthesis rate in the first 6 months of follow-up *(this thesis).*
4. Intravenous cell therapy with mesenchymal stem cells from donor rats with pulmonary hypertension reduces right ventricular pressure overload and reverses right ventricular hypertrophy in recipient rats with pulmonary artery hypertension *(this thesis).*
5. Stem cells from rats with pulmonary hypertension reduce pulmonary parenchymal damage, medial hypertrophy of pulmonary arterioles, and right ventricular hypertrophy in rats with pulmonary hypertension *(this thesis).*
6. Both cellular and extracellular factors are involved in the remodeling process and it is the combined action of these factors that give rise to changes in myocardial structure and function *(Deschamps A and Spinale F, Cardiovasc Res 2006).*
7. Currently, our concepts of the remodeling process have evolved to include not only changes in ventricular size and shape, but cellular and molecular remodeling, particularly as the ventricle evolves towards failure *(Manso A et al, Cardiovasc Res 2006).*
8. Current treatments can improve symptoms and reduce the severity of the hemodynamic abnormality of PAH, but most patients remain quite limited, and deterioration in their condition necessitates a lung transplant *(Rabinovitch M, Annu Rev Pathol Mech Di. 2007).*

9. A novel therapeutic strategy is desirable for PAH. Transplantation of autologous endothelial progenitor cells may be beneficial in patients with idiopathic PAH *(Wang X et al, J Am Coll Cardiol 2007).*
10. Few individuals significantly alter the course of history. Fewer still modify the map of the world. Hardly anyone can be credited with creating a nation. Muhammad Ali Jinnah did all three *(Prof. Stanley Wolpert 1927).*
11. If I were to say, "God, why me?" about the bad things, then I should have said, "God, why me?" about the good things that happened in my life *(Arthur Ashe 1943-1993).*
12. The scientific observer of nature is a kind of mystic seeker in the act of prayer *(Muhammad Iqbal 1877-1938).*
13. The woods are lovely, dark and deep,
    But I have promises to keep,
    And miles to go before I sleep,
    And miles to go before I sleep *(Robert Frost 1874-1963).*

Soban Umar
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Leiden, The Netherlands