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Changing concept in heart development

The development of the heart is a complex four dimensional process in which the heart, while functioning, transforms from a linear heart tube into a four-chambered heart. The use of genetically modified mice has considerably changed the insights in heart development in the past decade. In this keynote address the genetic model systems that have contributed to the altering insights in the mechanisms underlying heart development will be discussed and these novel insights will be highlighted. Secondly, developmental biologists have classically been focused on the first 10 weeks of human development with respect to heart development, because in this period the building plan of the heart is completed. However, after the first 10 weeks the heart needs to grow enormously and mature. At the end of gestation the proliferative growth of the heart changes to hypertrophic growth. This change in mechanism of cardiac growth has important consequence for the response of the heart during pathology.

Biography

Dr van den Hoff obtained his PhD in 1994 from the University of Amsterdam: "Isolation and characterization of the rat carbamoylphosphate synthetase I gene". After moving to the field of heart development with Prof Moorman, he established his own group focusing on heart muscle cell formation and epicardial development after the formation of the linear heart tube. As a visiting scientist he has developed a tight collaboration with the Medical University of South Carolina in Charleston (US). Currently, he is vice-chair of the department of Anatomy, Embryology & Physiology and AMC Principle Investigator and has published in excess of 86 papers (H-index 29) in peer-reviewed journals.

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