

Report from the bi-annual meeting of the ESC Working Group on Developmental Anatomy and Pathology

12-15 March 2008 Alberobello (Bari), Italy

Our bi-annual meeting took place this year (2008) in Southern Italy and as it was expected, we have had wonderful landscapes, good weather conditions and of course a really good time. As in previous occasions, the meeting was a great success. Almost 90 participants gathered together in a wonderful setting, surrounded by beautiful slopes of olives and almond trees, the latter just starting their flower blossom. The Hotel and conference center was close enough to the World Heritage village of Alberobello to enjoy its beautifulness but also far enough as to be kindly isolated in a wonderful rural environment in such a way that scientific discussion and brainstorming were always at any place.

The scientific gathering spanned during two intensive days and a half. We shared views on developmental anatomy of the heart as well as anatomical and pathological bases of congenital heart diseases. The scientific programme on development biology of the heart encompassed different symposia, such as lineage tracing of distinct cell populations, cell signaling, genetic control of heart development, new insights about the formation of the cardiac conduction system as well as the contribution of the epicardium to cardiac development. Deepening into lineage tracings, Prof. Nigel Brown reported us about the prospective boundaries of the posterior secondary heart field at early cardiac crescent stages. Dr. Jose Luis de la Pompa and Dr. Deborah Henderson, updated us about the role of distinct components of the Notch and non-canonical Wnt/planar cell polarity signaling pathways during cardiac morphogenesis. In addition, the distinct roles of different T-box and Pitx2 genes were also extensively reported by Dr. Andreas Kispert and Dr. Marina Campione, respectively. The functional characteristics of the developing cardiac conduction system as well as its developmental origin in mouse were nicely reported by Prof. David Sedmera and Prof. Diego Franco. Interestingly Prof. Thomas Brand elaborated on the role of popeye domain containing genes for the correct electrophysiological, morphological and molecular characteristics of the developing and adult cardiac conduction system. Last but not least, the contribution of the epicardium to the developing heart as well as its putative usage as stem cells to enhance cardiac performance was reported by Prof. Robert Poelmann, while Dr. Robert Kelly elaborated about the role of Tbx1 gene in normal and abnormal patterning of the coronary arteries in permanent truncus arteriosus. This part of the programme was fully complemented with a hands-on session wonderfully presented and illustrated by Prof. Pietro Gallo

regarding the spectrum of coronary artery anomalies, both in otherwise normal hearts as well as on distinct congenitally malformed hearts. This session was highly attended and participation on the hands-on was highly appreciated.

The contribution of young researchers, taken from the submitted abstract presentations was a perfect complementation to these state-of-the-art scientific sessions. Contributions were obtained from a wide range of geographical places. They covered many aspects of developmental and translational biology, including therein an ample set of experimental models systems, i.e. from the *Drosophila* pumping vessel to the congenitally abnormal human heart.

As a continuous renovation of the demands of our members as well as of the technical advancements, within this edition of our bi-annual working group meeting, several new initiatives were undertaken. Two platform discussion sessions were organized covering the genetic and epigenetic control of cardiac development as well as the usage and limitations of animal models as tools to understand human diseases. Both events were highly attended and discussion was fluent and intensive. Certainly it will be an achievement to be undertaken in future meetings. As technical advancements are highly developed nowadays, new sessions on moderated E-poster were introduced. Although it was indeed rather tight on time, the fact that all attendees could briefly orally present their work was indeed a nice and appreciated initiative, especially if we take into account the bravery and courage of young PhD students and/or early postdoc that were confronted with a short (5 minutes) oral presentations to the broad audience, including questions. Once accomplished, it was indeed a rewarding adventure for them. In addition, the last meeting day, a joint venture with the Italian Society of Gynecology and Obstetrics was organized, linking therein basic and clinical experiences on the imaging tools and early diagnosis of normal and congenitally malformed hearts, both in human as well as in experimental animal models. This part of the meeting was very rewarding in all senses, because we identified a linking bridge between clinical and basic scientists and because it was highly appreciated and attended. It certainly constituted an experience to be encouraged and repeated in future occasions.

The biannual ESC Developmental Anatomy and Pathology meeting was possible by the financial support of several entities, such as the ESC Council of Basic Cardiovascular Sciences, the VI EU Integrated Project "Heart Failure and Cardiac Repair (LSHM-CT-2005-018630), the University of Bari and the National Banca di Italia. A special mention should be given to the contribution of the ESC Council of Basic Cardiovascular Sciences, since it supported the magnificent Keynote Lecture of Prof. Antonio Baldini on the first day of the meeting, who updated us on the dose-

dependency role of Tbx1 gene expression regarding the different facades of the Di George syndrome. Furthermore, the ESC Council of Basic Cardiovascular Sciences also supported 8 travel grants and 2 Pexieder awards to the most talented presentation of the meeting. Travels awards were granted to the following participants; Chiara Castellani (Italy), Emma de Pater (The Netherlands), Bettina Kirchmaier (Germany), Denise Kolditz (The Netherlands), Meena Rafiq (UK), Oliver Lyons (UK), Valentina Sala (Italy) and Angela Torlopp (Germany). The Pexieder award on Cardiovascular Developmental Biology was awarded to Chiann-mun Chen (UK) for her excellent contribution on the role of polycomb repressive complex during cardiac development and the Pexieder award on Cardiovascular Anatomy and Pathology was awarded to Chiara Castellani (Italy) for her magnificent study on translational biology with her contribution on the homing and targeting of organ-specific cell differentiation of distinct stem cell types during right heart failure. Congratulations to all the awardees.

In conclusion, we think it was a highly successful meeting and we hope to see you next time in Prague.

