

Commentary

An Introduction to the ESC Working Group on Development, Anatomy and Pathology

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Received: 7 February 2014 / Accepted: 19 March 2014 / Published: 27 March 2014

The articles and reviews in this inaugural edition of the *Journal of Cardiovascular Development and Disease* have been written by presenters at the 2013 Meeting of the European Society of Cardiology's Working Group (WG) on Development, Anatomy and Pathology. The WG meeting provides an annual forum for researchers and clinicians interested in cardiac development and pathology to exchange expertise and present and debate new results, with the goal of furthering our understanding of the origins of congenital heart defects and cardiac pathology. Here we introduce the WG through a short account of the WG's history and current activities.

The European Society of Cardiology (ESC) will soon celebrate its 65th anniversary. Starting in the early 50s as a forum for clinical cardiologists, it has progressively become a world-class organization in which multiple cardiology subspecialties are represented. One of the founding stones of this scientific Society has always been to share and provide increased understanding of the scientific grounds of evidence-based medicine. This led to the early establishment of distinct ESC working groups. Understanding the morphogenetic bases of cardiac congenital heart diseases was a major issue in the 70s and 80s. Thus, the WG on Embryology and Teratology was founded by Jane Sommerville and Anton Becker and was the first basic science WG of the ESC. Their enthusiastic work resulted in the organization of the first WG meeting in 1982 in Alderley Edge (UK) and subsequently in Gottingen (Germany) in 1986. Anton Becker was the first WG chairman and links to the other side of the ocean were already established, as can be seen in Figure 1A by the presence of Richard Van Praagh

and Maria Victoria de la Cruz. The WG meetings continued on a biannual basis and for almost a decade were hosted in a small but charming village (Bilthoven) near Utrecht in The Netherlands, under the auspices of the ESC and the Dutch Heart Foundation. The Bilthoven meetings were very intense, with lively discussions on the contribution of the outflow tract to congenital heart defects, or the epicardial contribution to the heart, to provide some examples. Scientific discussions between WG members with different scientific backgrounds including Anton Becker (Amsterdam), Gaetano Thiene (Padua), Robert Anderson (London), Arnold Wenink (Leiden), Antoon Moorman (Amsterdam), Adriana Gittenberger-de Groot (Leiden), Roger Markward (Charleston) and Thomas Pexieder (Zurich), were accompanied by memorable piano melodies played by Arnold Wenink together with some Dutch spirits. On the occasion of the last Bilthoven meeting, very sad news arrived from Switzerland, as Thomas Pexieder passed away while enjoying one of his favorite activities, climbing in the Alps. In his honor the Pexieder award was established for the best oral short contribution to the WG meeting.

The advent of the molecular era led to new developments within the WG, starting with changing the name to the ESC WG on Developmental Anatomy and Pathology and followed by the progressive interest of molecular geneticists and cardiovascular developmental biologists in WG activities. The WG meeting also modernized and while maintaining its biannual character, different cities successively hosted our WG meeting; Málaga (1998), Padua (2000), London (2002), Leiden (2004), Mijas (2006) and Bari (2008). At this stage, the WG meeting had enlarged considerably and new initiatives were proposed, including having annual rather than biannual meetings. Bridges to the Americas were reinforced. At the Leiden (2004) meeting, our WG joined the Weinstein Cardiovascular Conference, up until that stage always held in the USA, an initiative that was repeated in Amsterdam (2010). Additionally, within the ESC, a transversal initiative to bring together basic cardiovascular science led to the establishment of the Council on Basic Cardiovascular Science, which soon promoted a single basic cardiovascular science meeting in Europe, the Frontiers in Cardiovascular Biology meeting. The first FCVB meeting was held in 2010 in Berlin, in which our WG actively contributed. Thus, scientific meetings were organized on an annual basis, either our own WG meeting; Malaga (2009), Liblice-Prague (2011), or in conjunction with other cardiovascular scientific societies as in Amsterdam (2010) and Berlin (2013), the meeting from which this issue is drawn, which was held with participation of the AEPC working group on Genetics, Basic Science and Inherited Muscle Disease, the Association for European Cardiovascular Pathology and the German Society for Pediatric Cardiology. During these years, our WG enlarged, meeting attendance reaching more than 100 participants (Figure 1B) and inclusion of new scientific topics and approaches led to a subtle, but important, change in the WG name to accommodate all research perspectives, hence the ESC WG on Development, Anatomy and Pathology.

Figure 1. The Working Group then and now. **(A)** The Embryology and Teratology WG meeting in Gottingen, Septmber 1986. **(B)** The Development, Anatomy and Embryology WG meeting in Berlin, September 2013.



As can be seen from the accompanying articles and reviews, the annual WG meetings cover a broad range of topics, from early embryonic development to cardiac stem cells and adult pathology and approaches to heart repair. Interestingly, discussions about outflow tract and epicardial development remain to the fore. The exchange between researchers studying a range of model organisms from the fly, through zebrafish to chick and mouse, and clinicians studying congenital heart defects is one of the most important features of the annual meeting. In addition, our meetings include hands-on demonstrations of malformed human hearts from different historical and clinical collections that provide a valuable learning experience for those working on model organisms. In addition to the annual WG meeting, our members participate actively in the annual ESC congress and biannual Frontiers in Cardiovascular Biology meetings, including the organisation of highly attended cardiac

anatomy and pathology live sessions. The WG also publishes a series of online essays and reviews, including one by each year's Pexieder Award winner. These can be freely accessed on our website, where additional information including funding opportunities and details of the Basic Cardiovascular Science summer school held every two years in the ESC headquarters at the European Heart House in Nice (the next being in 2015) can be found. Finally, interested readers are recommended to attend the 2014 Weinstein Cardiovascular Development meeting again to be held in Europe, in Madrid in May, with the participation of the WG, and the 2015 WG meeting which will be held in Amsterdam!

For further information: <http://www.escardio.org/communities/Working-Groups/anatomy-pathology/>.

Acknowledgments

We are grateful to Gaetano Thiene and Silke Sperling for the photographs in panels A and B respectively.

Conflicts of Interest

The authors declare no conflict of interest.

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