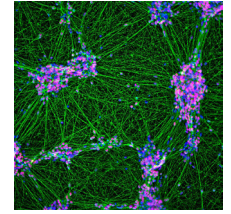


Stem Cells in perinatal medicine and other applications

Symposium of the Foundation for the Child with Handicap and the University Hospital Bonn



Date: May 21, 2022, 9.00 – 17.30
University Hospital Bonn Zoom Conference

The history of stem cell research is comparatively short, but had great progress as recognized by Nobel Prizes and now emerging clinical applications. In the late 70ies transplantable stem cells were discovered in human cord blood, and in the 80ies mouse embryonic stem cells were first isolated and cultured in the laboratory. In 1997 the sheep Dolly became the first artificial animal clone, and since 1998 human embryonic stem cells were isolated and grown in the laboratory. The concept of regenerative medicine came up with damaged or not sufficiently developed tissue to be replaced by stem cells, but there were also disappointments and ethical as well as legal discussions about using embryonic stem cells.

In 2006 Shinja Yamanaka et al reprogrammed ordinary adult cells by inserting four key genes thus forming „induced pluripotent (IPS) stem cells“. Also the first humans with e.g. spinal injury and some other diseases were treated with stem cells.

The state of art was summarized in a conference of the Ernst Schering Foundation and published in the book „Stem Cells from Cord Blood, in Utero Stem Cell Development and Transplantation-Inclusive Gene Therapy“ (Ernst Schering Foundation Symposium Proceedings, 33), Editors: W. Holzgreve, M. Lessl, Springer Nature 6.11.2000, <https://link.springer.com/book/10.1007/978-3-662-04469-8>. In the perinatal period tissues contain many types of stem cells which could be candidates for cell therapy and some of these tissues possess common characteristics of both embryonic and adult stem cells.

The current Symposium will discuss the new research on stem cells and how these could help medicine enormously besides gaining important basic knowledge about cell-based therapies and drug discovery. Prematurely born babies with a high risk to develop bronchopulmonary dysplasia could benefit from using stem cells, and approaches of even prenatal therapy with stem cells to treat genetic diseases in the fetus are investigated.

9.00 – 9.45:

Welcome & Introduction

Dr. Ursula Sautter, Lady Mayor of the Federal and UN-City of Bonn

Prof. Wolfgang Holzgreve, Head of University Hospital Bonn and the Foundation for the Child with Handicap

9.45 – 10.15:

Prof. Oliver Brüstle, University Hospital Bonn

“Stem cell programming for modelling disease and repair”

10.15 – 10.45:

Prof. Klaus Ferdinand Gärditz, University Bonn

“Work with embryonal stem cells – legal considerations”

10.45 – 11.15: Break

11.15 – 11.45:

PD Dr. Christoph Boeseke, University Hospital Bonn

“Stem Cells in virology and oncology”

11.45 – 12.15:

Prof. Volker Busskamp, University Hospital Bonn

“Stem cells for treating retinal degeneration”

12.15 – 12.45:

Prof. Bernd Fleischmann, University Hospital Bonn

“Stem cells differentiation in cardiology”

12.45 – 13.15: Lunch Break

13.15 – 13.45:

Prof. Jakob R. Passweg, University Hospital Basel

“Role of stem cells from cord blood”

13.45 – 14.15:

Prof. Arne Jensen, University Hospital Bochum

“Brain repair with stem cells“

14.15 – 14.45:

Prof. Andreina Schoeberlein, University of Bern

“Perinatal therapy with stem cell – derived extracellular vesicles“

14.45 – 15.15:

Prof. Juping Yuan, University Hospital Frankfurt

“Functional alterations of adipose mesenchymal stem cells”

15.15 – 15.45: Coffee Break

15.45 – 16.15:

PD Dr. Brigitte Strizek, University Hospital Bonn

“Perinatal brain damage – causes, therapy, prevention”

16.15 – 16.45:

Prof. Sven Matthias Wellmann, Regensburg

“Stem-cell therapy in neonates – an option?”

16.45 – 17.15:

Prof. Markus Gabriel, University Bonn

“The human brain-philosophical aspects”

17.15 – 17.30:

Conclusion

Prof. Wolfgang Holzgreve

Dr. Monika Lessl, Head of Bayer Foundation, Leverkusen

All these research results and future directions for development and application will be discussed in our interdisciplinary Symposium. The lectures are intended to be published in a special issue of the Journal of Perinatal Medicine such as the manuscripts of our previous Symposium on „Non- invasive prenatal testing“ was published in the JPM (Issue 49 in December 21). It is the intense exchange of medical, legal and ethical arguments in an open discussion with the public which our two Foundations want to support. Because of the still uncertain SARS-CoV-2 situation the whole symposium will be in the virtual format.

Registration: Sekretariat.AED-VV@ukbonn.de

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