Promotoren

Prof. dr. Herman Tournaye
Prof. dr. Ellen Goossens
Research Group Biology of the Testis
Department of Embryology and Genetics
Vrije Universiteit Brussel

Leden van de examencommissie

Prof. dr. Ans Van Pelt
Fertility Laboratory, Centre for Reproductive Medicine, Academic Medical Centre, Amsterdam
the Netherlands

Prof. dr. Christine Wyns
Département de Gynécologie-Andrologie
Cliniques Universitaires Saint-Luc
Université Catholique de Louvain

Prof. dr. Peter Bols
Gamete Research Centre
Department of Veterinary Sciences
University of Antwerp

Prof. dr. Thierry Vanden Driessche
Research group Gene Therapy and Regenerative Medicine
Vrije Universiteit Brussel

Prof. dr. Hilde Van de Velde
Research group Reproduction and Genetics
Department of Embryology and Genetics
Vrije Universiteit Brussel

Prof. dr. Ron Kooijman
Department of Pharmacology
Vrije Universiteit Brussel

Prof. dr. Karen Sermon, voorzitter
Research group Reproduction and Genetics
Department of Embryology and Genetics
Vrije Universiteit Brussel

Doctoraat in de Medische Wetenschappen
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UITNODIGING

Voor de openbare verdediging van het
doctoraatsproefschrift van

Liang NING

maandag 19 september 2011
U wordt vriendelijk uitgenodigd op de openbare verdediging van het proefschrift van

Liang NING

‘Spermatogonial stem cells as a source for fertility preservation and regenerative medicine’

Op maandag 19 september 2011 om 17 uur
in auditorium R. Vanden Driessche van de
Faculteit Geneeskunde & Farmacie
Laarbeeklaan 103, 1090 Brussel

Situering van het proefschrift

Banking and transplantation of spermatogonial stem cells (SSCs) may become a promising method to preserve the fertility of prepubertal patients. According to recent studies, the potential of SSCs to de-differentiate into pluripotent cells or transdifferentiate into other cell types is feasible and may become an additional indication for spermatogonial stem cell banking.

In our first study, we searched for an efficient and clinically feasible method for transfusing cell suspensions into the seminiferous tubules of isolated human testes. We concluded that a single ultrasound-guided injection of 800 µl in the rete testis may provide a promising method to transplant human SSCs in a clinical setting.

In our second study, GFP+ mesenchymal stem cells (MSCs) were transplanted into the testes of GFP- recipients. Sixteen weeks post-transplantation, MSC-transplanted testes showed more spermatogenesis and donor-derived cells expressed the surface markers of testicular somatic cells. These results may indicate the differentiation potential of murine MSCs into the cells contributing to the stem cell niche after transplantation. Co-transplantation of MSCs may thus be useful for spermatogenesis reinitiation.

In our third study, we showed that intra-bone marrow transplanted mouse SSCs have the potential to differentiate into haematopoietic cells.

In general, SSCs are a potential source for fertility preservation and regenerative medicine but more research is needed before any clinical application can be established.

Curriculum Vitae

Liang Ning was born on April 5th, 1980 in Shaanxi, P.R.China. He graduated in 2003 at the medical college of Xi’an Jiao Tong university as doctor in clinical medicine. In 2006, he finished his medical training in the department of Urology, the first affiliated hospital of medical school of Xi’an Jiaotong University in China, and started his scientific training in reproductive medicine at the VUB. During his training he focused on spermatogonial stem cell transplantation and differentiation. His work has been presented on (inter)national meetings and has been published in peer-reviewed reproductive medicine journals.