

2nd INTERNATIONAL SYMPOSIUM GENE & STEM CELL THERAPY FOR HEART FAILURE & OTHER CARDIOVASCULAR DISEASES



HOSPITAL CLINICO UNIVERSITARIO

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AUDITORIO DE LA FERIA DE MUESTRAS. VALLADOLID. SPAIN, APRIL 14th-15th 2005



2nd INTERNATIONAL SYMPOSIUM GENE & STEM CELL THERAPY FOR HEART FAILURE & OTHER CARDIOVASCULAR DISEASES

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-What giants? –said Sancho Panza.
-“Those you see over there,” replied his master, “with the long arms; sometimes they are almost two leagues long” [...]

[...] And having said this, he spurred his horse, Rocinante, paying no attention to the shouts of his squire, Sancho, who warned him that, beyond any doubt, those things he was about to attack were windmills and not giants. But he was so convinced they were giants that he did not hear the shouts of his squire, Sancho, and could not see, though he was very close, what they really were: [...]”

Don Quixote of la Mancha
(Part One, Chapter VIII)
Miguel de Cervantes y Saavedra, year 1605

This year marks the 400th Anniversary of the first edition of Miguel de Cervantes' novel 'Don Quixote of La Mancha'. The renowned chapter VIII of the first part describes the nobleman's fight against the thirty or so windmills which he believes to be evil giants. After the sail of one of the windmills throws him off his horse and to the ground, the injured Don Quixote begins to think that the forces of evil have transformed the giants into windmills purely as enmity against him. Sancho Panza, his loyal and wise squire, is unable to convince him otherwise.

Scientific thought has too often fallen victim to the lack of realism and the excessive pride and obstinacy against those Cervantes warns us of. Cell therapy could be considered an example of this. The therapeutic potential of cell progenitors is known. It has also been observed that vascular integrity is related to the presence of certain progenitors, and there exists data in favour of the existence of stem cells which are able to renew cardiac tissue. Finally, the use of stem cells in animals has resulted in discoveries compatible with myocardial and vascular regeneration, thereby leading to positive results on preliminary use in human medicine. However, these experimental observations contravene classical teaching and have proved difficult to reproduce. In addition, there are as yet no important random studies to confirm the initial clinical results. For these



reasons it has been suggested that the current of support for the use of stem cells in the treatment of cardiovascular diseases could possibly suffer from the same defects as those which brought about Don Quixote's misfortune, and it is suspected that, in the same way, those who have put our faith in this line of work could receive a sharp dose of reality.

The Second International Symposium of Gene and Stem Cell Therapy for Heart Failure and other Cardiovascular Diseases has been organised in order to attempt to distinguish a giant from a windmill. With this objective in mind, an exhaustive discussion of the results of investigation in this field has been planned, and we have sought the presence, both on the stand and in the auditorium, of independent experts to discuss the problem, and to ensure an objective analysis of reality through the necessary balance of enthusiasm and criticism, thus permitting as accurate a picture as possible of the future for this new therapeutic method.

This scientific program has been made possible thanks to the effort and enthusiasm of the people whose collaboration can never be too highly appreciated¹. Those involved in the preparation of this programme sincerely hope to satisfy the expectations of all of you who have decided to give up your time in order to come to Valladolid and join us in the conference. You are most sincerely welcome.

The Organising Committee

¹ A list of collaborators from the "Instituto de Ciencias del Corazón" (ICICOR, Hospital Clínico-Universitario, Valladolid), the "Servicio de Hematología del Hospital Universitario Río Hortega" and the "Instituto de Biología y Genética Molecular" (IBGM, University of Valladolid) is provided behind the first page.

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ACREDITATION



Spanish Society of Cardiology

Continuing Medical Education
Accreditation Program 8.46 CME credits

EBAC

European Board for Accreditation
in Cardiology - 12 CME credits

Castilla and León Government

Social Healthy recognized activity by the Castilla
and León Government

2

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Instituto de Ciencias del Corazón (ICICOR)
Hospital Clínico-Universitario de Valladolid

Co-directors

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Instituto de Ciencias del Corazón (ICICOR). Hospital Clínico-Universitario de Valladolid

Javier García-Frade
Servicio de Hematología. Hospital Universitario Río Hortega

José Alberto San Román
Instituto de Ciencias del Corazón (ICICOR). Hospital Clínico-Universitario de Valladolid

Ana Sánchez
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Cardiovascular del Instituto de Salud Carlos III (RECAVA)

Grupo de Terapia Celular Aplicada al Miocardio
(TECAM, Hospital Clínico-Universitario de Valladolid,
Hospital Universitario Río Hortega,
Instituto de Biología y Genética Molecular)

TaskForce on Stem Cell Regeneration of the Heart
(European Society of Cardiology)



EDUCATIONAL OBJECTIVES

This symposium is aimed at both medical and non-medical scientists interested in the study and application of gene and stem cell therapy for the prevention and treatment of heart failure and other cardiovascular diseases. For this reason the audience comprises:

- a) Preclinical researchers from all areas wishing to deepen their knowledge of cardiovascular developments, the mechanisms of progenitor cells in the maintenance and repair of cardiovascular structures, or in the identification, purification, and production processes of stem cells with therapeutic potential.
- b) Doctors specialising in the care of patients suffering from cardiovascular diseases, and who are interested in finding out about and discussing the current state of affairs and the future prospects for the application of this new therapeutic method.
- c) Surgeons or doctors involved in interventions dedicated to cardiovascular pathology and who are interested in the results and perspectives of gene vehiculization techniques, the stimulation of endogenous progenitors, or cell transplant to the cardiovascular system to fight cardiovascular disease.
- d) Medical or no medical professionals interested in the development of units and networks aimed at the translation of cardiovascular knowledge from bench to bedside and vice versa.
- e) Medical or no medical professionals interested in envisaging the opportunities for competition of gene and cell therapies in the cardiovascular field.

At the end of the conference those present will have acquired the following skills:

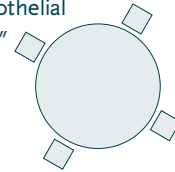
- 1. Know about and be able to discuss the latest advances in the role of progenitor cells in the integrity of the cardiovascular system of a healthy individual.
- 2. Know about and be able to discuss the latest experimental advances in the renewal and repair capacity of the damaged cardiovascular structure via the transplant of adult or embryonic stem cells, the stimulation of endogenous progenitors, or the vehiculization of mitosis-promoting genes.
- 3. Know about and be able to objectively debate the current state of feasibility and safety with regards to the clinical application of genetic stimulation techniques and the transplant of different types of progenitor cells via catheters or surgery.
- 4. Know about and be able to objectively advise on the efficiency of these types of treatment in patients with acute or chronic cardiovascular diseases which could be subsidiary.
- 5. Be able to predict the future and the possibilities of scientific and professional attitude with regard to offering these therapeutic methods.
- 6. Be able to evaluate and decide one's own ability to participate in the application of these therapies for healthcare, clinical, and preclinical purposes.
- 7. Be able to identify those institutions and groups with the highest performance capabilities in this field, and be able to establish contacts for educational, scientific, and healthcare purposes.

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 Piero Anversa (New York, USA)
 Jozef Bartunek (Aalst, Belgium)
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- 08:30 REGISTRATION
- 09:30 WELCOMING
- 10:00 Opening Conference:
 Chairmen: Jordi Soler Soler (Barcelona, Spain)
 Jean-Pierre Bassand (Besançon, France)
- 10:00 "Reconstructing the heart. Feasibility versus impact as assessed
 by imaging and quality of life"
 Valentin Fuster (New York, USA)
- 10:30 Discussion
- 11:00 Coffee Break
- 11:30 Round Table: PRECLINICAL USE OF STEM CELLS
 IN CARDIOVASCULAR APPLICATIONS
 Moderadores: Felipe Prosper (Pamplona, Spain)
 Eric Duckers (Rotterdam, The Netherlands)
- 11:30 "Human cardiac stem cells"
 Piero Anversa (New York, USA)
- 11:45 "Rescue of cardiac defects by injection of embryonic stem cells"
 Diego Fraidenraich (New York, USA)
- 12:00 "Haematopoietic and mesenchymal cell therapies
 for cardiovascular diseases"
 Silviu Itescu (New York, USA)
- 12:15 "Therapeutic potential of endothelial progenitor cells"
 Stefanie Dimmeler (Frankfurt, Germany)
- 12:30 "Myoblasts versus bone marrow-derived stem cells
 for cardiac repair"
 Doris Taylor (Minneapolis, USA)

- 12:45 "Experimental models for cardiac regeneration"
Ana Sánchez (Valladolid, Spain)
- 13:00 "Plasticity of human adipose stem cells toward endothelial cells and cardiomyocytes. Therapeutic perspectives"
John K. Fraser (San Diego, USA)
- 13:15 Discussion and closing remarks
- 13:30 Lunch



- 15:30 Round Table: CLINICAL APPLICATION OF STEM CELLS FOR CARDIOVASCULAR REPAIR
Chairpersons: Andrés Iñiguez (Vigo, Spain)
Manuel Galiñanes (Leicester, United Kingdom)
- 15:30 "Clinical imaging for assessing the efficacy of stem cell therapy in the heart"
Alberto San Román (Valladolid, Spain)
- 15:45 "Myoblast Transplantation for Myocardial Regeneration: Steps in Translational Research?"
Nabil Dib (Phoenix, USA)
- 16:00 "Surgical and transvenous myoblast transplantation: the Poznan experience"
Tomasz Siminiak (Poznan, Poland)
- 16:15 "Timing of bone marrow stem cell transplantation in patients with STEMI"
Jozef Bartunek (Aalst, Belgium)
- 16:30 "Catheter-based delivery of biologic agents: have we chosen the best approach?"
Warren Sherman (New York, USA)
- 16:45 "Bone marrow cell transfer after STEMI. Lessons from the BOOST trial"
Helmut Drexler (Hannover, Germany)
- 17:00 "BMCs after STEMI. The Leuven randomised experience"
Stefan Janssens (Leuven, Belgium)

- 17:15 "Bone marrow mobilization for myocardial repair after STEMI. Design and preliminary results of the FIRST-LINE -MI study"
Christoph Nienaber (Rostock, Germany)
- 17:30 Discussion

SATELLITE ACTIVITIES

Room 2

- 18:15 Meeting of the European Myocardial Repair Consortium Representatives
Chairpersons: Tomasz Siminiak (Poznan, Poland)
Maciej Kurpisz (Poznan, Poland)

Room 3

- 18:15 Practical Issues in the treatment of Ischemic Heart Disease
Chairpersons: Alfonso Castro Beiras (A Coruña, Spain)
Héctor Bueno (Madrid, Spain)

Room 4

- 18:15 Meeting of the European Society of Cardiology Task Force on Stem Cell Regeneration of the Heart
Chairperson: John Martin (London, UK)

SCIENTIFIC AGENDA

- 09:00 Keynote Session: "CREATING-RECONSTRUCTING THE HEART"
Chairpersons: David García-Dorado (Barcelona, Spain)
Piero Anversa (New York, USA)
- 09:00 "Embriology overview"
Jonathan H. Dinsmore (Charlestown, USA)
- 09:20 "Embryonic stem cells: Guided cardiogenesis for safe repair"
Andre Terzic (Rochester, USA)
- 09:40 "Role of resident progenitors and bone marrow stem cells in myocardial renewal and repair"
Bernardo Nadal (New York, USA)

- 10:00 "Islet 1+ progenitors in cardiac development and disease"
Kenneth R. Chien. (San Diego, USA)
- 10:30 Discussion
- 11:00 Coffe Break
- 11:30 CLINICAL CONTROVERSY
Chairpersons: Bodo Strauer (Duesselforf, Germany)
José Suárez de Lezo (Córdoba, Spain)
- 11:30 "Routine delivery of myoblast for chronic post-infarction left ventricular dysfunction during bypass surgery. Why not?"
Philippe Menasche (Paris, France)
- 11:50 "Clinical utilization of skeletal myoblasts. Is there any indication?"
Patrick W. Serruys (Rotterdam, The Netherlands)
- 12:10 "Bone marrow-based stem cell therapy. Should it be used always after STEMI?"
Andreas Zeiher (Frankfurt, Germany)
- 12:30 "Stem cell therapy always in postinfarction chronic coronary heart disease. Why not?"
Bodo Strauer (Dusseldorf, Germany)
- 12:50 "Issues regarding stem cell therapy from the clinical perspective"
Bernard Gersh (Rochester, USA)
- 13:10 Discussion
- 13:30 Lunch
- 15:30 FUTURE PERSPECTIVES IN GENE AND STEM CELL THERAPY FOR CARDIOVASCULAR REPAIR
Chairpersons: Bernat Soria (Alicante, Spain)
Luis Alonso Pulpón (Madrid, Spain)
- 15:30 "The future of stem cell delivery, a perspective"
Emerson Perin (Houston, USA)
- 15:50 "Regeneration of pluripotent stem cells from mesoderm-committed progenitors"
Juan Carlos Izpisúa (La Jolla, USA)

- 16:10 "Understanding the basis of gene therapy for neovascularisation and myocardial protection"
Douglas W. Losordo (Boston, USA)
- 16:30 "Future role of gene and stem cell therapy in patients with ST-elevated myocardial infarction"
Noel Caplice (Rochester, USA)
- 16:50 "Future role of gene and stem cell therapy in patients with heart failure"
Magdi Yacoub (Harefield, United Kingdom)
- 17:10 "Translational and clinical research on stem cell therapy for cardiac repair, a team approach"
John Martin (London, United Kingdom)
- 17:30 CLOSING REMARKS

GENERAL INFORMATION

Date	April, 14 th and 15 th 2005	Scientific Secretariat Ana M ^a Fernández Baza Hospital Clínico Universitario C/ Ramón y Cajal, 3 47005 Valladolid ph. 00 34 983 42 00 14 fx. 00 34 983 25 53 05 e-mail: amfb@ole.com
Meeting Venue	Auditorio de la Feria de Muestras Av. Ramón Pradera s/n 47001 Valladolid (Spain)	Technical Secretariat Viajes Orbiazul C/Alonso Pesquera 2 47002 Valladolid ph. 00 34 983 30 91 22 fx. 00 34 983 29 53 51 e-mail: orbiazul@terra.es
	Official Languages English and Spanish (simultaneous translation will be available)	

Information about Valladolid

Valladolid, economic centre and capital of Castilla y León is the ideal city to serve as a meeting point for professional activities. Its location is, without a doubt, privileged. It is easy to get to from other parts of the peninsula in a fast manner, both by land and railway (Campo Grande Station) and by air (Airport of Villanubla - Valladolid) from which national and international flights land and take off.

Its profile of an open city, with a population of approximately 400,000 inhabitants, permits the visitor to develop their professional activity in a pleasant setting.

The dynamism of commercial activity is revealed by the hundreds of businesses that shape and give life to the centre of the city, neuralgic centre of the sector.

You can't separate Valladolid from good eating. The gastronomy of Valladolid, with its diversity of dishes, meats and salted meats, fish and craft deserts are joined with good wines produced by the region.

TRANSPORT AND ACCOMODATION

Auditorio Feria de Muestras

The Congress Centre - Valladolid, active part of the Trade Fair Institution of Castilla y León, is a compelling reference as a setting for important socioeconomic activities.

Functional character and versatility are characteristics which define this centre. It is a modern, architectural complex, equipped with the necessary services for the organization and management of all types of congressional meetings.

Urban City Buses Station. ph: 00 34 983 45 77 20

Interurban Buses Station. ph: 00 34 983 236 308.

Railway Station. ph: 00 34902 24 02 02.

Valladolid Airport. ph: 00 34 983 415 500 and fax: 00 34 983 415 413.

Currently the airport of Valladolid services regular flights to Barcelona, Vigo, Paris, London and Brussels.

You can consult the flight schedules in the following link:
www.aytovalladolid.net/modules.php?name=Transporte&file=Avion

You will find more information in the websites of the individual airlines which operate from Valladolid: Iberia, PGA Portugalia Airline, Air France, Ryanair.com.

A bus service exists connecting the airport to Valladolid. From Monday to Friday, the bus leaves the airport at 3:15 p.m. and on Sundays at 7:25 p.m. Other ways of arriving to the city are by taxi or rental car. Taxis charge a fixed rate of 14 euros to cover the eleven kilometres which separate the airport from the city.

Radio Taxi. ph: 00 34 983 291 411.

Agrupación de Taxistas. ph: 00 34 983 207 755

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Valladolid - ph: 00 34 983 357 200

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Valladolid - ph: 00 34 983 351 111

www.cardiovascularcelltherapy.com is a virtual site which contains all the information related to the Symposium and its previous editions.

It is possible through this web-site to access the scientific program, to registrate and to reserve accommodation. Moreover, it is possible to obtain exhaustive and complete information about Valladolid.

It is also a priority for this web site to offer updated information about Stem Cell Therapy for Cardiovascular Diseases, so that appropriate accesses to the related sites have been created. High quality educational material such as access to webcasts, conferences, or updated bibliography is also accessible through this website.

Institutions

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IBGM. Instituto de Biología y Genética Molecular
Facultad de Medicina Universidad de Valladolid

Ana Amigo Bueno, Jesús Fernández Gutiérrez, M^a Eugenia Fernández Santos, Javier García-Sancho, Sandra Güemes Gutiérrez, Carmen Posoiu, Nicolás Posoiu, Arancha Rodríguez García, Ana Sánchez García.

Servicio de Hematología. Hospital Río Hortega:

Alberto Cantalapiedra Díez, Elena Fernández Fontecha, Dr. L. Javier García Frade, Oliver N. Gutiérrez Pérez, Dra. M^a Jesús Peñarubia Ponce, Rosa Sánchez Sánchez.