Genetics Of Sepsis and Septic Shock in Europe
GenOSSept References

• A study supported by the European Commission through the 6th framework programme of Research and Development

• A study supported by the European Critical Care Research Network of the ESICM

• An Advisory Board made of worldwide experts on sepsis

Derek Angus, Pittsburgh University, USA
Timothy Buchman, Washington University, St Louis, USA
Benoit Vallet, Lille University, France
GenOSept hypothesis

GenOSept is a specific targeted research project (STREP) which uses a multidisciplinary fundamental genomics approach (structural genomics, population genetics) to examine genetic predisposition to sepsis.

Sepsis (life-threatening infection) is a major public health problem throughout Europe. We hypothesize that fatal outcome from severe sepsis is, in part, genetically determined.
More about our study endpoint

- Genetic Epidemiology: Association with Genetic Markers (SNP) in Candidate Genes!
- Primary Endpoint: Mortality
- Secondary Endpoint: Morbidity
- Severe Sepsis associated with 4 Diseases:
  1. Fecal Peritonitis,
  2. Necrotizing Pancreatitis,
  3. Community Acquired Pneumonia,
  4. Meningitis
GenOSept Geographical scope

- **EU Countries partnering in the project**
  - Belgium
  - Czech Republic
  - Estonia
  - France
  - Germany
  - Hungary
  - Italy
  - Spain
  - United-Kingdom

- **EU Countries involved**
  - Denmark
  - Greece
  - Ireland
  - The Netherlands
  - Poland
  - Portugal
  - Sweden

- **Non-EU Countries partnering in the project**
  - Israel

- **Countries associated to the EU**
  - Norway
  - Switzerland
GenOSept Stakeholders

• A consortium made of 14 partners from 10 countries,
  - manages the study through its steering committee whereby each consortium partner is represented,
  - secures funding,
  - decides on inclusion and exclusion criteria,
  - controls the quality of the data collected,
  - Performs fundamental genomic studies on gene variants and their association to outcome
  - Performs and evaluates a genetic epidemiology study in European ICUs to explore genetic predisposition for mortality and morbidity in sepsis
  - reports on GenOSept developments to the European Commission,
  - promotes the project and disseminates its results
Steering Committee co-chairs

• First Co-Chair: Project Scientific Lead: Frank Stüber
  Frank Stüber, Professor of Anaesthesiology and Intensive Care Medicine at the Bonn University, Chairs the Consortium jointly with the ESICM.

• Second Co-chair: The Consortium coordinator: the ESICM, which is in charge of the daily management of the consortium

Moreover, both ESICM leadership and membership are deeply involved in this project:

• Julian Bion, ESICM President is the GenOSept lead investigator for the ESICM
• Marco Ranieri, ESICM President elect, is the GenOSept lead investigator for the University of Turin (partner 5)
• Jean-Daniel Chiche, Chair of the ESICM Research Committee, is the GenOSept lead investigator for Cochin institute (partner 3)
• Jordi Rello, Chair of the ESICM Section on Infection, is the GenOSept lead investigator for Tarragona University (partner 6)
• Antonio Carneiro, National Coordinator for Portugal is the Portuguese ESICM Council member
• Adam Mikstacki, National Coordinator for Poland is the Polish ESICM Council member
• Pierre Damas, National Coordinator for Belgium is an ESICM member
• Thomas Ryan, National Coordinator for Ireland is an ESICM member
Steering Committee members

- On behalf of Cochin institute (France), Jean-Daniel Chiche and Jean-Paul Mira,
- On behalf of the Wellcome Trust centre for human genetics (UK), Adrian Hill, Paul Holloway, Chris Garrard and Charles Hinds (UK national Coordinator),
- On behalf of Turin University (Italy), Marco Ranieri,
- On behalf of the University Rovira and Virgili (Spain), Jordi Rello,
- On behalf of the GSF-National Research for Environment and Health (Germany), Thomas Meitinger,
- On behalf of Hadassah Medical Organisation (Israel), Yoram Weiss,
- On behalf of the University of Ulm (Germany), Marion Schneider,
- On behalf of the University of Jena (Germany), Konrad Reinhart,
- On behalf of Masaryk University, (Czech Republic) Vladimir Sramek,
- On behalf of the National Medical Centre (Hungary), Tibor Gondos,
- On behalf of Tartu University Clinics (Estonia), Silver Sarapuu.
GenOSept Stakeholders

Our vital links

• **GenOSept National Coordinators**
  - Are responsible for recruiting ICUs in their country
  - Submit an application on behalf of the GenOSept collaboration to their national/ regional/local ethics committee
  - Provide assistance to the ICU lead clinician regarding the blood collection and shipment to the genotyping centres

• **GenOSept ICUs lead clinicians**
  - Enrol patients in their ICUs meeting the inclusion criteria
  - Enlist the patient data in the Electronic case report form
  - Collect, sample, store and ship the blood
GenOSept Work Packages

WP1: Consensus Definitions

WP2: Genome Scans: Novel Candidate Genes

WP3: Gene Expression: Novel Candidate Genes

WP4: Recruitment Platform, CRF

WP5: Genetic Epidemiologic Study Design

WP6: Promotion of Genomic Research in Sepsis in Eastern European Countries

WP7: Patient Recruitment

WP8: Genetic Testing and Harmonization of Genotyping

WP9: Statistical Analyses

WP10: Definition of Diagnostik Marker Set

WP11: Final Report
GenOSept Achievements

- Ethics package to be submitted to the relevant authorities of the countries participating in the study – complete

- Development of consensus definition (diseases covered by the study: fecal peritonitis, necrotizing pancreatitis, meningitis, community acquired pneumonia) – complete
GenOSSept Ongoing activities

• Recruitment of National Coordinators from Scandinavian countries, Switzerland-Ongoing

• Recruitment of ICUs from countries represented in the project either by a partner or an NC- Ongoing

• Development of the Electronic Case Record Form- bids in review

• Finalisation of Standard Operations Procedures related to the blood collection, sampling, storage and shipment to the genotyping centres- Almost complete
GenOSept Planning ahead

- Ethics committee approval to be obtained in the participating country- ongoing process

- Set up of the online version of the ECRF- Summer 2005

- Enrolment of patients admitted in ICUs participating in the survey- Early autumn 2005
GenOSept Endproducts

- Standardisation of protocols for genotyping

- Bridges gap for a genomics / intensive care network of excellence covering the whole Europe

- Diagnosis and treatment of European sepsis patients in subsequent therapeutic trials by identifying risk subpopulations

  Reduction of sepsis-related mortality in European healthcare

- Development of a generic electronic case report form to be used for further Research projects in intensive Care Medicine
Contribute to GenOSept

By

Becoming

a GenOSept National Coordinator

a GenOSept lead clinician for your ICU

By Bringing

your expertise to the project as a scientist
Visit the ESICM website at www.esicm.org

Contact the ESICM at public@esicm.org
a permanent officer will re-direct your request to the relevant GenOSept stakeholder / provide you with GenOSept promotional material

Contact our Scientific lead at Frank.stueber@ukb.uni-bonn.de

Visit the ECCRN corner at the ESICM booth on the occasion of the 2005 ESICM Congress in Amsterdam

Help us to promote GenOSept by securing a link from your website to the GenOSept website