Trial Description

Title

Regulation of the Receptor of Advanced Glycation Endproducts in Sepsis after Polytraumatization

Trial Acronym

RiSaP

URL of the trial

[---]*

Brief Summary in Lay Language

**Sepsis is one of the major threat in intensive care units of the western world and is until today even after years of extensive research associated with an inaceptable high mortality rate. The clinical picture results from an dysregulation of the innate immune system, which represents the first line of defence of the organism against invading pathogenic microorganisms or viruses. The effect is an initial overactivation, folllowed by a shut down of the immune system.
Recently, the highly-conserved Receptor of Advanced Glycation Endproducts (RAGE) was discovered as one of the potential key factors for the development of sepsis. RAGE binds to a variety of different substances and subsequently activates immune cells. Beside the membrane-bound recepor, 2 additional soluble variants of the receptor can be found in the plasma of patients with sepsis or severe injuries.
Function, distribution and development of the variants are not yet fully discovered but higher plasma levels correlate with fatal outcome in septic patients.
This study enrolls therefore patients after polytraumatization and examines the development of the different protein variants during progression. Main objective is to investigate the connection between the molecular processes and the development of a sepsis after polytraumatization.**

Brief Summary in Scientific Language

**Sepsis is one of the major threat in intensive care units of the western world and is until today even after years of extensive research associated with an inaceptable high mortality rate. The clinical picture results from an dysregulation of the innate immune system, which represents the first line of defence of the organism against invading pathogenic microorganisms or viruses. The effect is an initial hyperinflammation, folllowed by a immuneparalytic phase.
Recently, the highly-conserved Receptor of Advanced Glycation Endproducts (RAGE) was discovered as one of the potential key factors for the perpetuation of sepsis. RAGE binds to a variety of different ligands, one of them is HMGB-1, for which a relevance in sepsis has been shown earlier. Beside the membrane-bound recepor, there are also 2 soluble forms: cleaved RAGE and endogenous secreted RAGE. Both are measurable in plasma of septic patients and probably continue to bind ligands.
To which extent the soluble variants drain the ligands from the cell-bound**

receptors and decrease the activation of inflammatory signaling cascades is still ambigous.
The study therefore wants to examine, how the different isoforms are created, how the mechanisms are controled and which connection lies between this molecular processes and the development of sepsis.
Because of the existing variants of the protein, all tiers of gene expression will be considered in this study.

Organizational Data

- DRKS-ID: **DRKS00000480**
- Date of Registration in DRKS: **2010/07/21**
- Date of Registration in Partner Registry or other Primary Registry: **[---]***
- Investigator Sponsored/Initiated Trial (IST/IIT): **yes**
- Ethics Approval/Approval of the Ethics Committee: **Approved**
- (leading) Ethics Committee Nr.: **127/09 , Ethik-Kommission des Fachbereichs Medizin der Justus-Liebig-Universität Gießen**

Secondary IDs

Health condition or Problem studied

- ICD10: **T07 - Unspecified multiple injuries**
- ICD10: **A41.9 - Septicaemia, unspecified**

Interventions/Observational Groups

Characteristics

- Study Type: **Non-interventional**
- Study Type Non-Interventional: **Observational study**
- Allocation: **Other**
- Blinding: **Open (masking not used)**
- Who is blinded: **[---]***
- Control: **Other**
- Purpose: **Basic research/physiological study**

Study Type: **Non-interventional**

Study Type Non-Interventional: **Observational study**

Allocation: **Other**

Blinding: **Open (masking not used)**

Who is blinded: **[---]***

Control: **Other**

Purpose: **Basic research/physiological study**

- Assignment: **Other**
- Phase: **N/A**
- Off-label use (Zulassungsüberschreitende Anwendung eines Arzneimittels): **[---]***

Primary Outcome

Prevalence of SIRS/sepsis (ACCP/SCCM consensus conference) during the initial 9 days after polytraumatization - aim is to examine the correlation between expression and abundance of the receptor on the cell membran and in the patients plasma with the development of a systemic inflammatory complication

Secondary Outcome

28-day-mortality

Countries of recruitment

- DE **Germany**

Locations of Recruitment

Recruitment

- Planned/Actual: **Planned**
- (Anticipated or Actual) Date of First Enrollment: **2010/08/01**
- Target Sample Size: **100**
- Monocenter/Multicenter trial: **Monocenter trial**
- National/International: **National**

Inclusion Criteria

- Gender: **Both, male and female**
- Minimum Age: **18 Years**
- Maximum Age: **no maximum age**

Additional Inclusion Criteria

Polytraumatization with ISS>16

Exclusion criteria

terminal kidney insufficiency, Diabetes mellitus, rheumathoid arthritis, Morbus Alzheimer, inflammatory bowel disease, artherisclerosis with previous myocardial ischemia, myocardial bypass surgery, stent implantation surgery

Addresses

- **Primary Sponsor**

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Sources of Monetary or Material Support

- **Private sponsorship (foundations, study societies, etc.)**

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Status

- Recruitment Status: **Recruiting ongoing**
- Study Closing (LPLV): **[---]***

Trial Publications, Results and other documents

** This entry means the parameter is not applicable or has not been set.*
**** This entry means that data is not displayed due to insufficient data privacy clearing.*