

Ex vivo microbiological assessment of an anti-biofilm catheter in acute dialysis application

Submission date 30/08/2007	Recruitment status No longer recruiting	☐ Prospectively registered
		☐ Protocol
Registration date 19/09/2007	Overall study status Completed	☐ Statistical analysis plan
		☐ Results
Last Edited 01/02/2019	Condition category Urological and Genital Diseases	☐ Individual participant data
		☐ Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

ClinicalTrials.gov (NCT)
NCT00621114

Protocol serial number
Study No 2007_MBR_003

Study information

Scientific Title

Ex vivo microbiological assessment of an anti-biofilm catheter in acute dialysis application

Study objectives

The clinical study aims at providing further data on antimicrobial efficiency and a supposed additional preventive effect on catheter-related infections of a catheter with antibacterial surface coating in comparison to standard catheters without coating but with identical design.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approval was granted by the local medical ethics committee (Ethikkommission der Medizinischen Fakultät der Eberhard-Karls-Universität und am Universitätsklinikum Tübingen) on 25th July 2007 (ref:154/2007MPG1).

Primary study design

Interventional

Study design

Prospective, randomised, single-centre, clinical study with 2 parallel patient groups (A and B) after prior sub-group stratification.

Study type(s)

Prevention

Health condition(s) or problem(s) studied

Renal disease

Interventions

Commercially available catheters will be used; the design will not be blinded. Catheters will be placed according to a defined protocol. The investigator selects the appropriate catheter length for each patient.

Type X: Standard double lumen catheter without coating: commercially available CE certified GamCath® catheter (Gambro Kathetertechnik Hechingen, Germany), Product codes: GDHK-1315J (outer diameter 13 French, length 15 cm, curved extension lines), GDHK-1320J (outer diameter 13 French, length 20 cm, curved extension lines)

Type Y: Double lumen catheter with bismuth-containing coating: commercially available, CE certified GamCath Dolphin® Protect catheter (Gambro Kathetertechnik Hechingen, Germany) with similar design and measures as the standard catheter, but with antibacterial coating, Product codes: MC-GDHK-1315J (outer diameter 13 French, length 15 cm, curved extension lines), MC-GDHK-1320J (outer diameter 13 French, length 20 cm, curved extension lines).

Catheters will be removed based on clinical indication; therefore there is no exact duration of treatment. There will be no follow-up blood investigations for the patient. The maximal observation period is 29 days.

Used catheters and arterial and venous rinsing fluids will be analysed for bacterial colonisation. A cut-off 100 CFU/mL will be defined as positive. Further characterisation of bacteria will be

performed with focus on genetic variations of bacteria that might be attributed to inhibition or resistance mechanisms on the catheters.

Citrate plasma and lock solution samples will be analysed for bismuth concentrations by Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Routine clinical laboratory data will be analysed according to local clinical laboratory routine.

Intervention Type

Other

Phase

Not Specified

Primary outcome(s)

1. Bacterial colonisation of the catheter surface, analysed after removal of the catheter. A cut-off 100 CFU/mL will be defined as positive
2. Bismuth content in plasma and lock solution will be analysed before catheter placement, once weekly pre-dialysis and once at explantation

Key secondary outcome(s)

1. Catheter patency (indirect measure: venous and arterial pressure differences)
2. Catheter dwell time
3. Exit site appearance
4. Blood parameters

Secondary outcome measured will be documented at routine sampling.

Completion date

31/03/2008

Eligibility**Key inclusion criteria**

1. Need for extracorporeal renal replacement therapy (acute and chronic renal failure)
2. Anticipated duration of dialysis therapy less than or equal to 30 days
3. Age between 18 and 85 years
4. Written informed consent

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Not Specified

Sex

Not Specified

Key exclusion criteria

1. Known Hepatitis B Virus (HBV)/Hepatitis C Virus (HCV)/Human Immunodeficiency Virus (HIV) infection
2. Known pregnancy

Date of first enrolment

08/08/2007

Date of final enrolment

31/03/2008

Locations**Countries of recruitment**

Germany

Study participating centre

Dr. med. Bjorn Friedrich

Tubingen

Germany

72076

Sponsor information**Organisation**

Gambro Dialysatoren GmbH (Germany)

ROR

<https://ror.org/05jgtkc28>

Funder(s)**Funder type**

Industry

Funder Name

Gambro Dialysatoren GmbH (Germany) - grant

Funder Name

German Federal Ministry of Education and Research (Bundesministerium Fur Bildung und Forschung [BMBF]) (Germany) - Activities are part of the BMBF BioProfile project
"Antibakterielle und biofunktionale Oberflächen für extrakorporale sowie zelltherapeutische Verfahren" (ref: Forderkennzeichen 0313648)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration