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Glerup, Rie Io; Schønheyder, Henrik Carl; Svensson, My Hanna Sofia; Madsen, Jens Kristian; Christensen, Jeppe Hagstrup

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HD-BACT: SUBCLINICAL BACTERAEMIA AND MORTALITY AMONG HAEMODIALYSIS PATIENTS

R. I. Glerup¹, H. C. Schønheyder³, M. Svensson², J. K. Madsen², J. H. Christensen¹

¹Department of Nephrology, Aarhus University Hospital Aalborg ²Department of Nephrology C, Aarhus University Hospital Skejby ³Department of Clinical Microbiology, Aarhus University Hospital Aalborg

Aim

To investigate the influence of circulating bacterial DNA on

- mortality
- morbidity
- levels of inflammatory markers

Methods

Study population:

Haemodialysis patients treated in five different haemo dialysis facilities

- Aalborg
- Skejby
- Hjørring

among a group of haemodialysis (HD) patients.

Background

- Mortality rate among HD patients is > 20 %
- Cardiovascular disease (CVD) is the major course of mortality
- There is a close relationship between inflammation and development of CVD
- 30-60% of HD patients have constantly elevated inflammation markers
- Various factors in the uremic milieu can cause and sustain this inflammation
- Infection may be an important inflammatory factor as well
- Small studies have shown that approximately 20% of a population of HD patients without any sign of clinical infection has circulating frag ments of bacterial DNA in the blood stream
 - these patients do also have elevated hsCRP

- Randers
- Horsens

Patients on chronic haemodialysis above 18 years of age and capable of understanding informed consent are eligible for inclusion.

Procedure:

- Interview with baseline information
- Physical examination
- Blood sample drawn from peripheral vein and from haemodialysis access
- Nasal wipe
- Dialysate samples
- 100 HD patients will be re-examined after one week repeating blood sampling

Blood samples:

- Bacterial DNA detected by using broad range 16S rDNA PCR.
- Blood cultures
- Inflammation markers: A number of markers from different areas of the inflammatory response are analyzed • Baseline parameters: Electrolytes, lipids, hemoglobin, creatinine, urea

Hypothesis

Chronic inflammation in HD patients may be caused by subclinical infection expressed by circulating bacterial DNA in the blood stream causing higher mortality and morbidity

Design

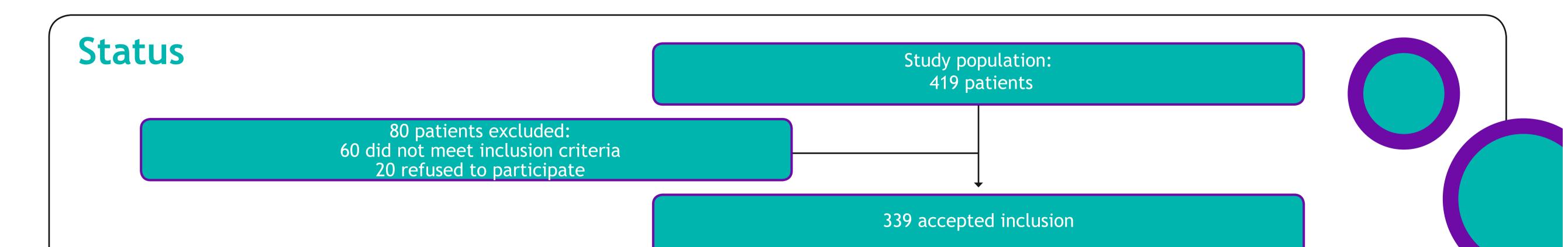
- Cohort study
- 2 year follow up

Primary end point:

• all cause mortality

Secondary end points:

- bacteraemia
- cardiovascular death
- cardiovascular events
- hospital admissions



2 patients died waiting for inclusion program

337 patients included December 6th 2010 until March 29th 2011

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