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ERA Long-Term Research Fellowship Project

EUDIAL

Project's key info

Title of the project	How to set the stage for a full-fledged clinical trial testing "incremental haemodialysis"
Working Group and ERA Committee involved in the project	EuDial (European Dialysis) Working Group
Principal Investigator(s) of the project	Carlo Basile, Francesco G. Casino
Duration	12 months
Fellowship Grant	35.000,00 €
Start of the fellowship	Within 6 months after notification of the grant award to the fellow.

Receiving Institute

Name of receiving institute	Nephrology, Dialysis and Transplantation Unit "Aldo Moro" University of Bari (ITALY)
Supervisor's name	Loreto Gesualdo
Supervisor's e-mail address	loreto.gesualdo@uniba.it

Project's detailed description

Project description

The optimal regimen for patients starting haemodialysis (HD) is not known. It is plausible that the routine practice of a thrice-weekly HD (3HD/wk) regimen in incident patients with substantial residual kidney function (RKF) may be harmful, contributing to accelerated loss of RKF. At the present time no randomized controlled trial (RCT) testing "incremental HD" has yet been published [1].

The EUDIAL Working Group is starting an RCT in incident HD patients, whose name is "REAL LIFE", by using the acronym of its whole definition: RandomizEd clinicAL triaL on the effIcacy and saFety of incremental haEmodialysis.

REAL LIFE is a pragmatic, prospective, multicentre, open-label RCT, investigator-initiated, comparing the intervention arm (incremental HD) with the control arm (standard 3HD/wk). Incident patients will be randomized to one of the two treatment groups in equal proportion. To ensure adequate concealment of allocation, randomization will be performed using a central computer.

Patients will be recruited from dialysis centres in Europe. The primary outcome is the preservation of RKF assessed as time to anuria (urine output ≤ 100 mL/day). Secondary outcomes are the slope of KRU decline over time, all-cause mortality, significant events, including vascular access failure and associated interventions, cardiovascular events, and hospital admissions. The follow-up time will be 24 months. The statistical analysis will be done by means of the intention-to-treat approach. The prescription of incremental HD will be based on the variable target model (VTM) [2]. VTM allows to start and keep patients on a once-weekly HD schedule if residual renal urea clearance (KRU) is between 3.0 and 4.5 mL/min/35 L. Once-weekly HD should be possible until KRU falls below 2.5 – 3.0 mL/min/35 L, i.e., a glomerular filtration rate (GFR) ≈ 4 mL/min/35 L.

All patients allocated to the intervention arm will keep on the twice-weekly schedule until KRU falls below 1.5 mL/min/35 L; afterwards, the 3HD/wk schedule must be started. The intervention arm patients (once- and twice-weekly HD schedule) should receive an equilibrated Kt/V (eKt/V) of about 1.2 per session.
The assessment of the key kinetic parameters will be done by using SPEEDY [21], a spreadsheet prescription tool.

References:
1. Basile C, Casino FG on behalf of the EUDIAL Working Group of ERA- EDTA (2019) Incremental haemodialysis and residual kidney function: more and more observations but no trials. Nephrol Dial Transplant 34: 1806 – 1811
2. Casino FG, Basile C (2017) The variable target model: a paradigm shift in the incremental haemodialysis prescription. Nephrol Dial Transplant 32: 182 – 190
3. Casino FG, Basile C (2018) A user-friendly tool for incremental haemodialysis prescription. Nephrol Dial Transplant 33: 1046 – 10
https://academic.oup.com/ndt/article/33/6/1046/4791297

Qualifications and/or expertise required to the fellow

- Expertise in biostatistics and epidemiology;
- Previous experiences in the conduction and monitoring of randomized controlled trials.