

Publication Brief

Prognostic Significance of Hemodynamic Parameters in Hemodialysis Patients

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BACKGROUND

The high mortality in hemodialysis patients with limited cardiac function is largely due to cardiac insufficiency or sudden cardiac death. Systemic haemodynamics can be directly measured during hemodialysis (HD) using ultrasound dilution technology. From the dilution curves of these parameters, total end-diastolic volume index (TEDVI) and total ejection fraction (TEF) can be calculated. TEF is a novel hemodynamic marker with high prognostic relevance in hemodialysis patients, but data are not available on its or TEDVI's significance and prognostic relevance.

METHODS

- Prospective cross-sectional study.
- Study cohort: 215 stable hemodialysis patients.
- Cardiac output (CO) or heart index (CI) was measured at the beginning and end of an HD session with the Transonic HD03-CO.
- Total end diastolic volume index (TEDVI) and the total ejection fraction (TEF) were calculated from the dilution curves for a subgroup of the patients (n = 82).
- TEDVI and TEF were correlated with survival after a median follow-up period of 963 days.

CONCLUSION

- TEDVI, TEF are markers of cardiac congestion and global systolic function, respectively;
- Both are novel parameters with high prognostic relevance for chronic hemodialysis patients.

TAKE HOME

- Another study by Dr. Furruch Artunc, Dr. Stephanie Haag and their group at Tübingen using the HD03-CO to show prognostic significance of cardiac parameters measured by the HD03 Hemodialysis Monitor in HD patients.
- The results of the study underscore the prognostic relevance of cardiac function for the survival of HD patients.

REFERENCE

Haag S, Friedrich B, Heyne N, Artunc F, "The total ejection fraction is a novel hemodynamic marker with high prognostic relevance in hemodialysis patients," Jahrestagung der Deutschen Gesellschaft für Nephrologie Abstract 2017; (Transonic Reference # HD11248A)



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