Introduction

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Cardiovascular complications have become by far the most frequent causes of morbidity and mortality in dialysis patients. Many of these patients exhibit multiple cardiovascular risk factors, i.e., hypertension, dyslipidemia, hemodynamic alterations related to the renal replacement therapy, and glucose intolerance.

Hypertension in dialysis patients can be caused or maintained by fluid overload in preexisting kidney disease with secondary changes in structural abnormalities of the cardiovascular system. In the first contribution Dr. De Leeuw is discussing the pathophysiology of hypertension in patients on renal replacement therapy, giving special attention to the role of fluid overload and the pressor systems in hypertensive renal failure.

The incidence of hypertension in dialysis patients given in the literature is variable (20-60%). It is difficult to define hypertension in hemodialysis patients. Although the blood pressure is frequently measured during hemodialysis therapy, it is not known which blood pressure value should be taken as a basis for initiation and evaluation of antihypertensive therapy. The predialytic blood pressure can be influenced by the rise in extracellular volume during the interdialytic

period, whereas the postdialytic blood pressure may be related to the hemodialysis treatment itself. Perhaps of more interest are the data of interdialytic blood pressure monitoring which can also give information on the disturbance of the day-night blood pressure profile and, therefore, on the so-called blood pressure load. Dr. Charra achieved blood pressure control in 90% of the patients by long slow dialysis. This author attributed the more efficient blood pressure control to a better volume control. However, also the long dialysis time (high Kt/V) could be of importance in relation to a better removal (3×8 h/week) of e.g. vasopressor substances or of substances that inhibit vasodilating substances to be produced, like asymmetric di-methylarginine (a potent nitric oxide synthase inhibitor). Data on continuous interdialytic ambulatory blood pressure measurements are given by Dr. Luik and coworkers. These contributors could not find a correlation between interdialytic fluid gain and interdialytic blood pressure rise. There seemed to be interindividual differences in blood pressure response to fluid accumulation.

A last important topic in the treatment of hypertension of end-stage renal failure patients is the treatment goal. What should be

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the blood pressure threshold to prevent secondary cardiovascular disease and what should be our approach in clinical practice? The contribution by Dr. Parfrey and Harnett is dealing with the clinical aspects of cardiomyopathy and with other risk factors in dialysis patients. Recent studies have stressed the importance of left ventricular hypertrophy as a very important determinant for survival

and morbidity in hemodialysis patients. Left ventricular hypertrophy in end-stage renal failure patients is related to chronic pressure, but also to chronic fluid overload. Dr. London and coworkers describe the pathophysiology of left ventricular hypertrophy in dialysis patients, stressing the importance of a decreased distensibility of the large arteries, and an altered timing of arterial wave reflections.

244

Leunissen

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