

## Comment

Regular renal replacement therapy (RRT) is the success of nephrology and the defeat of medicine – many people can enjoy a reasonably good and long life after the health system has failed in saving their kidneys. This holds true for nearly 20,000 adults on regular haemodialysis in Poland – mostly as a consequence of diabetes, hypertension, atherosclerosis, glomerulonephritis, and polycystic kidney disease. It is already well documented that the adequate treatment of each of the first three aforementioned entities results in slower progression to haemodialysis. In line with our principle to prevent kidney loss first, this “Progress in Medicine” issue presents two papers showing the new trends in treating the other two of them – the IgA nephropathy, which is the most frequent primary glomerulonephritis (Florczak et al.), and the polycystic kidney disease (Grenda). In the elderly the haemodialysis treatment introduction is frequently hastened by episodes of acute kidney injury (AKI) resulting mostly from dehydration. This is why the paper summarising the signs and symptoms of dehydration in the aged accompanies the aforementioned overview of new therapeutic options (Gellert). Once a patient has lost native kidneys, the best for him/her would be to receive a kidney transplant. Unfortunately, the medical staff attitudes towards transplantation are not universally positive, which could negatively affect the transplantation numbers (Kobus et al.).

The haemodialysis procedure is nowadays performed according to the prescription more than 50 years old, which was rigorously verified for the last time only in the seventies of the last century, when Cambi defined the 12 hours a week treatment regime, which has been the minimum treatment requirement since 1984, after the outcomes of the 3 x 4 hours per week schedule had been published. The enormous progress in dialysis technology (e.g. the use of high blood flow, high-flux dialysers, ultrapure water, haemodiafiltration on-line) and medication we have witnessed since, increased the uremic toxins removal, improved the control of anaemia, acidosis, and calcium-phosphate metabolism. It also decreased the cost of treatment, which made it available to all in need of it in Poland only 15 years ago. This is of special importance to patients with neoplastic diseases, who until recently were denied the RRT. The malignancies are more incident in uremic population due to the uremic immunosuppression. In our observation, the genitourinary tract malignancies and lymphomas are the most common neoplasms at the beginning of the RRT (Ostrowski et al.). Our fifteen-years-long experience with these patients shows that their prognosis favours the haemodialysis over the conservative treatment – even if they de- cease rather from the malignant than the cardiovascular disease (Ostrowski et al.).

The erythropoiesis stimulating agents (ESAs) widely used in renal anaemia treatment can increase the incidence of malignancies and relapses. Thus, the iron store replenishment is of utmost importance. In this issue we prove that the modern intravenous iron preparations do not oversaturate the natural plasma mechanisms protective against the unbound iron toxicity (Chmiel-Majewska et al.). We also prove, that normalisation of plasma 25(OH)D is of only limited help to renal anaemia treatment (Chmiel-Majewska et al.).

The more efficient haemodialysis removes wider range of the uremic toxins, but little attention has been given, till now, to the removal of other water-soluble substances – ions, vitamins, etc. The potential depletion of these compounds could counteract the beneficial effects of the improved detoxication. We could confirm the observation of others that plasma concentrations of magnesium, the second most abundant intracellular cation, tends to be low in patients on haemodialysis, the more so the poorer the nutrition status of the patient. To our surprise, this correlation was more significant than dialysis dose (Daniewska et al.). Our observation suggests that inadequate nutrition results in low plasma magnesium concentration irrespective of dialysis efficacy in patients on haemodialysis, both presenting with and without diabetes (Gellert et al.). Based on our observations and on the extensive literature review, we suggest the future guidelines recommend an increase in the standard magnesium concentration in dialysis fluid, which could protect the cardiovascular system from accelerated atherosclerosis and safely diminish mortality in this group of patients (Daniewska et al.).

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