Many patients meeting the traditional criteria for “early care” for chronic kidney disease (CKD) do not receive adequate care just before renal replacement therapy (RRT) is begun, according to a study in Kidney International.

The analysis included 12,143 adult patients with ESRD who began receiving RRT (mainly hemodialysis) in Ontario between 1998 and 2008. Of those, 24.1 percent met the traditional definition of late referral for CKD care (after 6 months). The rates and impact of alternative measures of CKD care were assessed, including cumulative care, based on total number of visits, and consistency of care in the critical period immediately before RRT. The latter measure stipulated visits in at least 3 of the 6 months before the start of RRT.

Although more than three-fourths of patients met the definition of early CKD care, just 38.3 percent of this group had more than 10 cumulative visits and received consistent care during the critical period before RRT. Mortality 1 year after the start of RRT was 15.8 percent overall.

This risk was significantly increased with late care: adjusted odds ratio (OR) 1.31. Survival was better for patients with more cumulative visits: OR 0.75 with six to 10 visits and 0.68 with 10 or more visits (compared with one to five visits). Patients receiving consistent care during the critical period also had improved survival: OR 0.75 with six to 10 visits and 0.68 with 10 or more visits (compared with one to five visits). Patients receiving consistent care during the critical period also had improved survival: OR 0.75 with six to 10 visits and 0.68 with 10 or more visits (compared with one to five visits).

The study suggests that measures of cumulative care and consistency of care before the beginning of RRT, rather than just “early CKD care,” have an important impact on one-year mortality. The investigators conclude: “It is not just when a patient is first seen that matters, but also that patients are seen frequently and regularly to allow for timely interventions, such as access planning, in order to optimize outcomes” [Singhal R, et al. Inadequate pre-dialysis care and mortality after initiation of renal replacement therapy. Kidney Int 2014; 86:399–406].

After Kidney Donation, Some Have Insurance Difficulties

Living kidney donors in the United States sometimes have trouble buying or maintaining life and health insurance policies, reports a study in the American Journal of Transplantation.

The survey study included 1046 individuals who underwent live donor nephrectomy at one transplant center in the United States between 1970 and 2011. Donors were asked whether they had initiated or changed their health or life insurance after donating and whether they had any difficulties in doing so.

Of 395 donors who changed or initiated health insurance, 27 (7 percent) reported difficulties. Twenty-one patients were denied health insurance, 12 were charged a higher premium, and 8 were told that being a living kidney donor was a pre-existing condition.

Differences were also reported by 46 of 186 donors (25 percent) who changed or initiated life insurance. Twenty-three respondents were denied coverage, 27 were charged higher premiums, and 17 were told that they had a pre-existing condition.

Of donors who changed or initiated insurance, 24 percent met the traditional definition of early CKD care, just 38.3 percent of this group had more than 10 cumulative visits and received consistent care during the critical period before RRT. Mortality 1 year after the start of RRT was 15.8 percent overall.

Nonalcoholic fatty liver disease (NAFLD), in terms of both presence and severity, is an independent risk factor for CKD, concludes a meta-analysis in PLOS Medicine.

A systematic review was performed to identify observational studies assessing NAFLD by histologic, imaging, or biochemical findings and to assess CKD on the basis of estimated GFR or proteinuria. Thirty-three studies that included a total of 63,902 participants were identified. Of those, 20 studies provided individual participant data on 29,282 patients. A meta-analysis was performed to determine whether the presence of NAFLD affected the risk of CKD, after confounders were accounted for, and whether NAFLD severity affected the severity of CKD.

Participants with NAFLD were at higher risk for CKD: odds ratio (OR) 2.12 for prevalent CKD and hazard ratio (HR) 1.79 for incident CKD. The associations were stronger for nonalcoholic steatohepatitis than for simple steatosis: OR 2.55 for prevalent CKD and HR 2.12 for incident CKD. For patients with advanced hepatic fibrosis, the OR for prevalent CKD was 5.20, and the HR for incident CKD was 3.29, compared with patients with nonadvanced fibrosis.

The associations were significant in patients with and without diabetes and after adjustment for traditional CKD risk factors. They were also independent of whole-body and abdominal obesity and insulin resistance. Positive associations between NAFLD severity and CKD stage were found on analysis of both cross-sectional and longitudinal data.

The meta-analysis supports recent evidence suggesting an association between NAFLD and CKD. The findings suggest that patients with NAFLD should be screened for CKD, even in the absence of traditional risk factors, especially when nonalcoholic steatohepatitis or advanced fibrosis is suspected. The implications for treatment of NAFLD patients with CKD are discussed, along with the need for further research into the mechanisms of the association [Musto G, et al. Association of non-alcoholic fatty liver disease with chronic kidney disease: a systematic review and meta-analysis. PLoS Med 2014; 11:e1001680. doi: 10.1371/journal.pmed.1001680].

mTORC Pathway Affects Vascular Changes in Antiphospholipid Syndrome

The vascular changes of antiphospholipid syndrome nephropathy involve activation of the mammalian target of rapamycin complex (mTORC) pathway, suggesting a potential benefit of sirolimus after kidney transplantation, according to a study in the New England Journal of Medicine.

The investigators performed a series of studies to assess activation of the mTORC pathway in patients with antiphospholipid syndrome nephropathy, including autopsy specimens from patients who died of catastrophic antiphospholipid syndrome. In both primary and secondary disease, evidence of mTORC pathway activation was observed in proliferating intranuclear vessels. The autopsy specimens likewise showed signs of mTORC activation in blood vessels. In vitro, IgG antibodies from affected patients stimulated mTORC in vascular endothelial cells through the phosphatidylinositol 3-kinase—protein kinase B pathway.

The researchers also evaluated the effects of the mTORC inhibitor sirolimus after kidney transplantation. Out of 37 transplant recipients with antiphospholipid antibodies, 10 received immunosuppressive therapy including sirolimus. These patients had no recurrent vascular lesions, and they also had reduced vascular proliferation, compared with antiphospholipid antibody-positive recipients not treated with sirolimus. At 12 years’ follow-up, 7 of 10 sirolimus-treated patients had a functioning transplant compared with 3 of 27 patients not receiving sirolimus.

Although thrombosis is regarded as the main feature of antiphospholipid syndrome, chronic vascular lesions are commonly present and may recur after kidney transplantation. The new study provides evidence that activation of the mTORC pathways is involved in the vascular lesions seen in antiphospholipid syndrome nephropathy. The results suggest that in kidney transplant recipients with antiphospholipid antibodies, giving sirolimus to inhibit the mTORC pathway “protects the transplanted graft and, more important, prevents graft loss by preventing the development of intimal hyperplasia” [Canaud G, et al. Inhibition of the mTORC pathway in the antiphospholipid syndrome. N Engl J Med 2014;371:303–312].