Table 1. Interleukin (IL) 17 expression in kidney diseases and hypertension

Disorder	Study	Observation
UTI	Sundac et al. [28]	Proteomics identified IL-17 as a highly expressed cytokines in the urine of patients with UTI.
Autoimmune/ antibody-based diseases	Shah et al. [34]	Increased circulating Th17 cells in patients with lupus.
	Jakiela et al. [35]	IL-17 identified in serum of lupus patients; higher levels in patients with active rejection.
	Zickert et al. [36]	Increased baseline levels of IL-6, IL-10, IL-17, IL-23, and IL-17 staining in biopsies from lupus patients vs. controls. Baseline IL-17 and IL-23 levels predicted poor responses to treatment.
	Crispín et al. [37]	DN T cells from patients with SLE produced significant amounts of IL-17 and IFN-gamma; IL-17(+) and DN T cells were present in kidney biopsies of patients with lupus nephritis.
	Krebs et al. [38]	RORγt+ T cells were identified in biopsies of patients with ANCA glomerular nephritis.
	Velden et al. [39]	Immunostaining of biopsies of ANCA patients revealed the presence of IL-17.
	Nogueira et al.[40]	Serum levels of IL-17 and IL-23 were elevated in ANCA patients vs. healthy controls; persistent elevation was associated with resolution of inflammation.
	Wątorek et al. [41]	Elevated IL-17 levels were found in patients with immunoglobulin A nephropathy.
	Jen et al. [42]	Children with acute Henoch-Schönlein purpura showed higher serum IL-17 and IL-6 levels, increased numbers of Th17 cells, and higher IL-17 production from peripheral blood mononuclear cells.
NS	Wang et al. [43]	Pediatric patients with NS had an increased frequency of IL-17+ cells and RORγt.
	Liu et al. [44]	Increased Th17/T_{reg} ratio was found in adult patients with minimal change NS.
Acute and chronic rejection in renal transplant	Loverre et al. [45]	Increased numbers of CD4+/IL-17+ cells and tubular expression of IL-17 were observed in biopsies of T-cell mediated rejection.
	Hesiah et al. [46]	IL-17 staining was positive in biopsies of renal allografts with evidence of rejection; IL-17 mRNA was detected in the urinary sediment of patients with borderline subclinical rejection.
	de Menezes Neves et al. [47]	Increased IL-17 and tumor necrosis factor-α expression was detected by immunohistochemistry in biopsies of patients with acute rejection compared with control patients.
	Millán et al. [48]	Increased soluble IL-17 in plasma was considered predictive of acute liver and kidney rejection.
	Matignon et al. [49]	IL-17 mRNA levels were elevated in renal biopsies of transplant recipients with non-successful reversal of acute rejection.
	Chung et al. [50]	Increased prevalence of Th17 cells was found in patients with chronic allograft nephropathy.
AKI	Mehrotra et al. [22]	Increased Th17 cells and IL-17+ and Orai+ PBMCs were detected in ICU patients with AKI vs. non-AKI patients.
	Maravitsa et al. [51]	IL-17 levels were higher in septic patients that developed AKI than those that did not.
CKD/fibrosis	Coppock et al. [52]	Elevated IL-17 expression in biopsies of CKD patients with interstitial fibrosis.
	Chung et al. [53]	End-stage renal disease was associated with IL-17-producing memory T cells.
DN	Zhang et al. [54]	Increased percentage of Th1 and Th17 cells and increased IL-6 expression was observed in patients with T2 DN.
	Niewczas et al. [55]	IL-17A levels in plasma predicted progressive nephropathy in T1 and T2 DN patients.
Hypertension	Madhur et al. [56]	IL-17 levels were elevated in the serum of hypertensive diabetic patients vs. normotensive diabetic patients.
	Yao et al. [57]	Serum IL-17 level was elevated in prehypertension (defined as BP of 120 to 139 mmHg) and in those patients with a diastolic BP of 80 to 89 mmHg vs. the optimal BP group.
	Simundic et al. [58]	A correlation was observed between IL-17A level and the duration of hypertension in patients without BP control.
	Hosseini et al. [59]	Serum IL-17 levels were increased in patients with pre-eclampsia.

AKI, acute kidney injury; ANCA, antineutrophil cytoplasmic antibody; BP, blood pressure; CKD, chronic kidney disease; DN, diabetic nephropathy; ICU, intensive care unit; mRNA, messenger RNA; NS, nephrotic syndrome; PBMC, peripheral blood mononuclear cell; RORγt, RAR-related orphan receptor gamma T; SLE, systemic lupus erythematosus; Th, T-helper cell; T_{reg}, T-regulatory; UTI, urinary tract infection.