hypothesis that targeted systemic delivery of rat aortic endothelial cells (ECs) transduced with IL8 receptors attenuates the inflammatory response and promotes structural and functional recovery of the kidney in rats following AKI.

Male Sprague-Dawley rats were subjected to AKI by clamping the left renal artery for 45 min and removing the right kidney. At time of reperfusion, 1.5x106 ECs equipped with IL8 receptors or vehicle were infused in the femoral vein. Serial measurements of serum creatinine were obtained and kidney tissue was harvested at 6 weeks after injury. RT-PCR was used to assess inflammatory mediator expression in kidney tissue. Tissue slices were stained with picrosirius red for assessment of collagen area (index of fibrosis) and immunostained for CD31 for assessment of capillary density.

Targeted delivery of ECs attenuated inflammatory mediator expression by ~60% and EC-expressed adhesion molecules by ~70-80% in the remnant kidney at 6 weeks after AKI compared to vehicle-treated rats (Figure). EC treatment blunted the rise in serum creatinine at 24 and 72 hrs after AKI, increased capillary density in the kidney cortex and medulla and decreased interstitial collagen in the kidney cortex.

Equipped with a homing device (IL8 receptors), ECs administered intravenously target the injured kidney after AKI inhibiting inflammation, accelerating tissue repair, and preserving renal function. This innovative therapeutic approach has the potential to improve functional and structural recovery of the kidney following AKI in humans.

Keywords: Endothelial cells; ischemia reperfusion; acute kidney injury

EPIDEMIOLOGY/SPECIAL POPULATIONS

FP-19

Risk of serious fall injuries after initiation of antihypertensive medications in older adults

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Antihypertensive medication use may increase the risk for falls among older adults. We conducted a case-crossover analysis to evaluate the effects of initiating or adding a new class of antihypertensive medication on the risk for a serious fall injury in the nationwide US Medicare 5% random sample. Medicare beneficiaries, 65 to 110 years of age, with a claim for a serious fall injury between 2007 and 2012 were included if they had full Medicare fee-for-service and pharmacy coverage (Parts A+B+D) for the 560 days prior to their fall. Serious fall injuries were defined based on emergency department and inpatient claims with an injury code for a nonpathological fracture, brain injury, or dislocation of the hip, knee, shoulder, or jaw, along with a fall-related code; or with the requirement that there was no motor vehicle accident code in the absence of a fall-related code. The sample included 90,127 beneficiaries who had a serious fall injury [mean age 80.8 (SD 8.1) years; 76.1% women]. The risk for a serious fall injury was increased in the 15 days after initiating antihypertensive medication [odds ratio (OR): 1.36, 95% CI: 1.19, 1.55; Table]. This association was present for beneficiaries with a diagnosis of hypertension in the 365 days prior to their first antihypertensive medication fill (OR: 1.36, 95% CI: 1.15, 1.62) and for those who were not hospitalized in the 365 days prior to their fall (OR: 1.38, 95% CI: 1.15, 1.65). Antihypertensive medication initiation beyond 15 days was not associated with a serious fall injury. For individuals already taking antihypertensive medication, the risk for falls was also increased within 15 days of starting a new class of medication, overall (OR: 1.16, 95% CI: 1.10-1.23), in those with a diagnosis of hypertension (OR: 1.15, 95% CI: 1.09-1.23), and in those not hospitalized within 365 days prior to their fall (OR: 1.20; 95% CI: 1.10-1.30). Among Medicare beneficiaries, the initiation or addition of antihypertensive medication was associated with an increased short-term but not long-term risk of serious fall injuries. Precautions should be undertaken to prevent falls when initiating or intensifying antihypertensive medication in older adults.

Keywords: Antihypertensive medications; older adults; falls

METABOLIC SYNDROME (DIABETES/GLYCEMIC CONTROL; DYSGLYCEMIC DRUGS; INSULIN RESISTANCE)

FP-21

Clinical Factors Associated with Sleep-Time Hypertension in Patients with Diabetes: The Hygia Project

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Independent studies have found that elevated sleep-time blood pressure (BP) is a better predictor of cardiovascular disease (CVD) risk than the awake mean or clinic BP measurements in patients without as well as with diabetes. Sleep-time hypertension is highly prevalent in diabetes and this has been consistently associated with the increased CVD risk of these patients. However, the responsible mechanisms and contributing factors of sleep-time hypertension in diabetes have not been fully elucidated. Accordingly, we investigated potential contributing factors of sleep-time hypertension in patients with type 2 diabetes participants in the Hygia Project, designed to evaluate prospectively CVD risk by ambulatory BP monitoring in primary care centers of Northwest Spain. We evaluated 5142 patients with diabetes, 3059 men/2083 women, 65.1±11.1 years of age, 1127 untreated for hypertension, with ambulatory BP ranging from normotension to sustained hypertension. BP was measured at 20-min intervals from 07:00 to 23:00h and at 30-min intervals at night for 48h. During monitoring, patients maintained a diary listing the times of going to bed at

Odds ratios for a serious fall injury associated with initiation of antihypertensive medication.

	Odds ratio (95% CI) for a serious fall associated with initiation of antihypertensive medication:			
	0-15 days prior to fall*	16-30 days prior to fall†	31-60 days prior to fall‡	61-90 days prior to fall§
Overall	1.36 (1.19, 1.55)	1.07 (0.93, 1.24)	1.00 (0.89, 1.13)	0.92 (0.80, 1.05)
Prior hypertension diagnosis	1.36 (1.15, 1.62)	1.06 (0.88, 1.27)	1.06 (0.91, 1.23)	0.91 (0.76, 1.10)
No recent hospitalization	1.38 (1.15, 1.65)	1.03 (0.84, 1.27)	1.01 (0.85, 1.19)	0.94 (0.77, 1.15)

Control periods:
*31-45, 61-75, 91-105, 121-135, 151-165, and 181-195 days prior to the fall.
†46-60, 76-90, 106-120, 136-150, 166-180, and 196-210 days prior to the fall.
‡91-120, and 151-180 days prior to the fall.
§151-180 days prior to the fall.