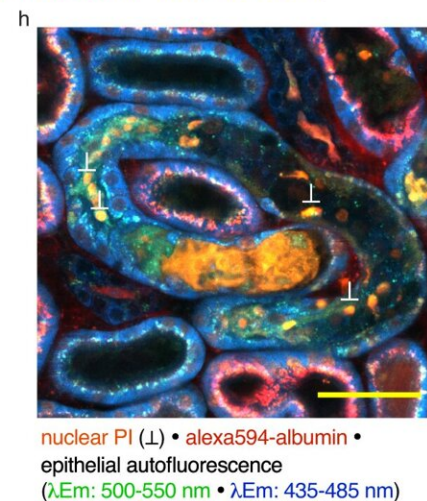
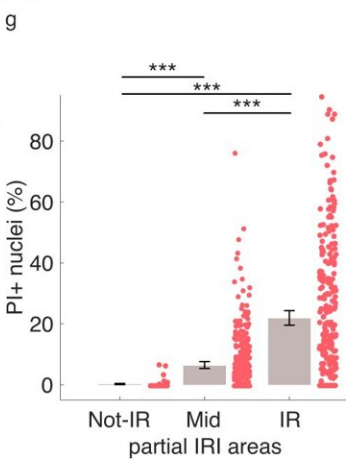
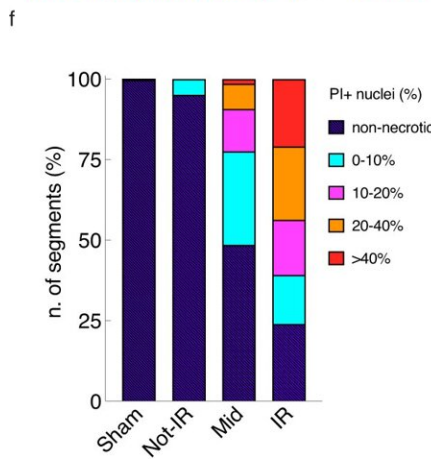
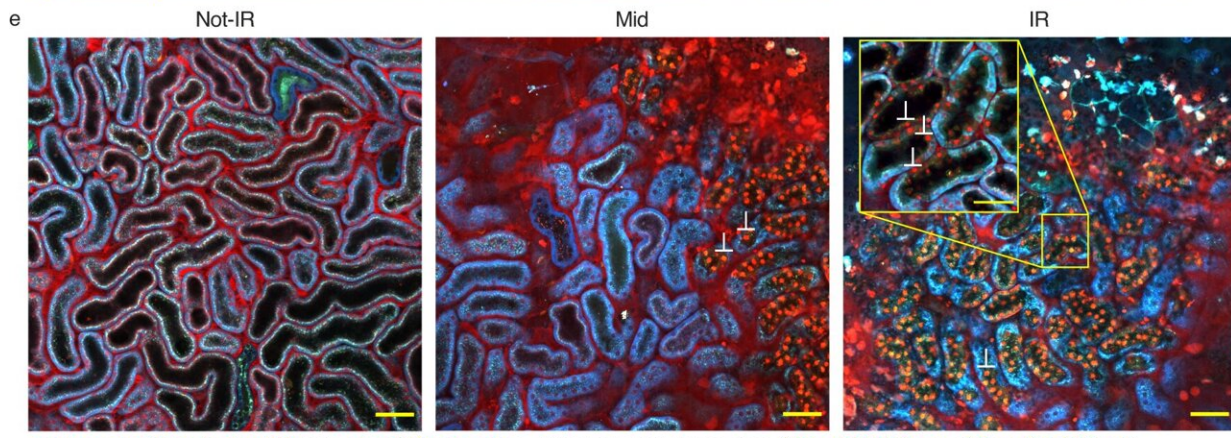
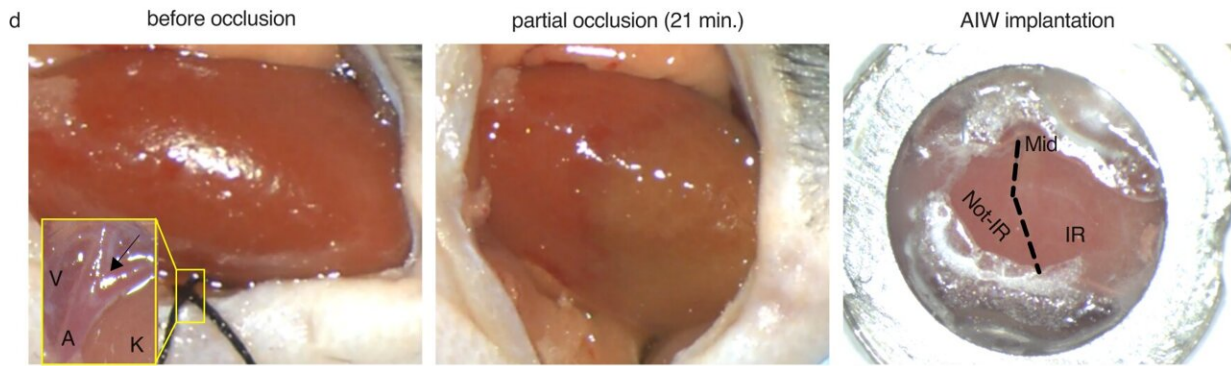
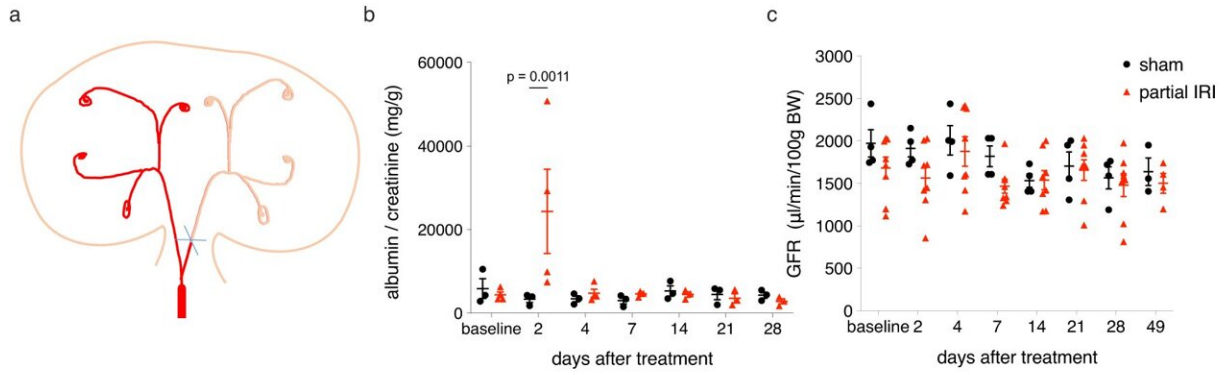


New research: Acute kidney damage spreads over time

September 26 2023, by Vibe Bregendahl Noordeloos



A model of partial ischemia-reperfusion injury (partial IRI). a Schematic drawing of the partial IRI model. b, c Urinary albumin/creatinine ratio and glomerular filtration rate (GFR) from sham and partial IRI mice (b: n = 3 and 4 mice and c: n = 4 and 8 mice for sham and partial IRI, respectively); mean \pm SEM with scatterplot. Statistical test: repeated measurement two-way ANOVA, factors: treatment and days from treatment, post-hoc analysis: multiple comparisons, Bonferroni correction (Supplementary Extended Statistics.b). d Representative stereomicroscope photos of a mouse kidney before and during renal artery branch occlusion for 21 min and after abdominal imaging window (AIW) implantation upon reperfusion. Ischemic and perfused regions were clearly identifiable until reperfusion. AIW implantation was performed on the interphase between ischemic (IR), non-ischemic (Not-IR) regions, and the area in between (Mid). Inlet: Arterial bifurcation (V: renal vein, A: renal artery, K: kidney. Arrow indicates bifurcation). e In vivo 2-photon images acquired 2 h after partial IRI, identified IR, Mid, and Not-IR regions. Scale bar: 50 μ m. Note marked reduction of blue autofluorescence in propidium iodide (PI)+ tubule cells (inlet, scale bar: 30 μ m). f Necrotic injury distribution in sham and different injury regions of partial IRI kidneys clustered by percentage of segments with indicated threshold of PI+ nuclei (% of total nuclei/ segment). g Volumetric quantification of PI+ nuclei (% of total nuclei/ segment), (n = 123, 334, and 263 segments from 5, 7, and 6 mice for Not-IR, Mid, and IR, respectively, and 360 segments from 3 Sham mice); mean \pm 95% CI with scatterplot. Statistical test: linear mixed-effect model, p-values from two-sided test (Supplementary Extended Statistics.c). h In vivo 2-photon image acquired 6 h after partial IRI, displaying luminal accumulation of PI+ cells. Scale bar: 50 μ m. *: p

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