Publications Template

#	Research Title	Field	Abstract	Year of Publication Publishing	Publishing Link "URL"
1	Co-targeting of endothelin-A and vitamin D receptors: a novel strategy to ameliorate cisplatin-induced nephrotoxicity. Pharmacological Reports - 2019; 71(5):917-925. doi: 10.1016/j.pharep.2019.04.018. Epub 2019 Apr 25	Drug-induced Nephrotoxicity	Background: Although modulation of the vitamin D receptor (VDR) and endothelin-A receptor (ETAR) has previously been reported to offer renoprotection against cisplatin-induced nephrotoxicity, the possible interaction between the ET-1 and vitamin D pathways remains obscure. Therefore, the present study addressed the possible interaction between these signalling pathways using BQ-123 (a selective ETAR blocker) and alfacalcidol (a vitamin D3 analogue) separately or in combination. Methods: Male Sprague–Dawley rats were divided into the following groups: control (DMSO orally), cisplatin (single dose of 6 mg/kg ip; nephrotoxicity model), cisplatin + BQ-123 (1 mg/kg BQ-123 ip 1 h before and 1 day after cisplatin), cisplatin + alfacalcidol (50 ng/kg alfacalcidol orally 5 days before and 14 days after cisplatin), and cisplatin + BQ-123+alfacalcidol. Nephrotoxicity was evaluated 96 h and 14 days following cisplatin administration. Results: Both BQ-123 and alfacalcidol counteracted cisplatin-induced nephrotoxic changes. Specifically, they reduced serum creatinine and urea levels; renal tumour necrosis factor-alpha (TNF-α), transforming growth factor-beta1 (TGF-β1), and phosphorylated nuclear factor-kappa B (pNF-κB) content; and caspase-3 activity. They downregulated ET-1 and ETAR expression and ameliorated cisplatin-induced acute tubular necrosis. In addition, the treatments have increased VDR and endothelin-B receptor (ETBR) expression; however, BQ-123 did not affect ETBR. The effect of the combination regimen surpassed that of each drug alone. Conclusion: These findings highlight the potential cross-talk between vitamin D and	2019	https://www.sciencedirect.com/science/article/pii/S1734114019300209?via%3Dihub

			ET-1 pathways and pave the way for future preclinical/clinical studies to explore further mechanisms involved in this cross-talk.		
2	Celecoxib modulates Nitric Oxide and Reactive Oxygen Species in Kidney Ischemia/Reperfusion injury and in Rat Aorta Model of Hypoxia /Reoxygenation. Vascular Pharmacology - 2014; 62:24–31.	Renal ischemia /reperfusion injury & Vascular hypoxia /reoxygenation injury	OBJECTIVE:This study investigated the interaction between COX-2, NO and ROS after ischemia/reperfusion events in the kidney and vascular beds. MATERIALS AND METHODS: Kidney IRI model in male Sprague-Dawley rats was used and various biochemical and histopathological parameters were examined. The isolated rat aortic rings served as model for hypoxia/reoxygenation. RESULTS: Celecoxib reduced serum creatinine and urea and kidney malonaldehyde levels, increased kidney superoxide dismutase activity and reduced glutathione level and histopathological scores at 24 and 48 h after reperfusion compared to IRI group. This was associated with a significant increase in NO level to 0.70 ± 0.03 nmol/mg protein compared to 0.37 ± 0.01 nmol/mg protein for IRI group. Unexpectedly, celecoxib reduced COX-2 expression in the kidney. Celecoxib reversed the effect of hypoxia-reoxygenation on ACh and SNP-induced relaxation in aortic rings but failed to potentiate the SNP relaxations in the control rings. Hypoxia-reoxygenation significantly impaired celecoxib's relaxation of aorta (12.69 ± 2.69% vs. 35.84 ± 0.84%) which was significantly inhibited in presence of L-NAME.CONCLUSIONS: Celecoxib beneficially affects the outcome of renal IRI by lowering the expression of COX-2 and hence reducing oxidative stress and increasing the bioavailability of NO. Direct interaction between celecoxib and NO in associated vascular beds may also be a contributing mechanism.	2014	https://www.sciencedirect.com/science/article/pii/S1537189114000767?via%3Dihub
3	Evaluation of L-arginine on Kidney Function and Vascular Reactivity Following Ischemic Injury in Rats: Protective Effects and Potential Interactions.	Renal ischemia /reperfusion injury & Vascular hypoxia /reoxygenation	BACKGROUND: There is an interaction between many cell types involved in the pathophysiology of ischemic acute renal failure. Nitric oxide (NO) precursors, especially l-arginine, may have protective effects on tissue ischemia/reperfusion injury (IRI); however, their molecular mechanisms are unclear. In the present study, the interaction between l-arginine, cyclo-oxygenase (COX)-2 and reactive oxygen species (ROS) in the pathogenesis of ischemic acute renal failure was investigated.	2014	https://link.springer.com/article/10.1016%2Fj.pharep.2014.06.013

	Pharmacological Reports – 2014; 66(6): 976-983.	injury	METHODS: Ischemia/reperfusion injury model in rats was used and various biochemical parameters examined. The rat isolated aortic rings served as model for hypoxia/reoxygenation where endothelium dependent and independent relaxations were exerted. RESULTS: Pre-treatment of rats subjected to IRI with l-arginine (125mg/kg) significantly reduced kidney MDA levels, elevated kidney SOD activity, GSH level and total NO levels at 24 and 48h after reperfusion. Kidney COX-2 level was only different in the l-arginine-treated group 48h after reperfusion compared to the IRI group. Pre-treatment with l-arginine (10(-2)M) alone or in combination with celecoxib significantly potentiated the acetylcholine (Ach)-induced relaxations in control and hypoxic rings. The effect of the combination was synergistic only in hypoxic rings. Addition of ascorbic acid to the celecoxib-arginine combination did not produce further potentiation. Sodium nitroprusside-induced relaxations in control and hypoxic rings were potentiated by l-arginine or celecoxib-arginine combination but not by ascorbic acid. CONCLUSIONS: The protective effect of l-arginine may result from the interaction between NO and ROS and increased NO bioavailability. The protective effects of combined celecoxib and l-arginine against IRI could be attributed to their antioxidant activity which exceeded that of ascorbic acid.		