REFERENCES

Aki, Y., et al. 1997. The role of basally synthesized nitric oxide in modulating the renal vasoconstrictor action of angiotensin II. Hypertens. Res. 20: 251-256.

Allen, A. M.; Zhou, J. and Mendelsohn, F. A. 1999. Localization of angiotensin AT1 and AT2 receptors. J. Am. Soc. Nephrol. 10: S23-S29. (suppl 11).

Archer, S. L., Freude, K. A., Shultz, P. J. 1995. Effect of graded hypoxia on the induction and function of inducible nitric oxide synthase in rat mesangial cells. Cir. Res. 77: 21-28.

Ardaillou, R. 1999. Angiotensin II receptors. J. Am. Soc. Nephrol. 10: S30-S39 (suppl 11).

Arima, S. and Ito, S. 2001. New insights in to actions of the renin-angiotensin system in the kidney: Concentrating on the Ang II receptors and the newly described Ang-(1-7) and its receptor. Semin. Nephrol. 21: 535-543.

Arnet, U. A., Mcmillan, A., Dinerman, J. L., Ballermann, B. and Lowenstein, C. J. 1996. Regulation of endothelial nitric oxide synthase doing hypoxia. J. Biol. Chem. 271: 15069-15073.

Awolesi, M. A., Sessa, W. C. and Sumpio, B. E. 1995. Cyclic strain upregulates nitric oxide synthase in cultured bovine aortic endothelial cells. J. Clin. Invest. 96: 1449-1454.

Bachmann, S. and Mundel, P. 1994. Nitric oxide in the kidney: Synthesis, localization and function. Am. J. Kidney Dis. 24: 112-129.

Bakris, G. L. and Re, R. N. 1993. Endothelin modulates angiotensin II-induced mitogenesis in human mesangial cells. Am. J. Physiol. 264: F937-F942.

Bander, S. J.; Buerkert, J. E.; Martin, D. and Klahr, S. 1985. Long-term effects of 24 hr unilateral ureteral obstruction on renal function in the rat. Kidney Int. 28: 614-620.

Baylis, C., et al. 1996. Relationship between basal NO release and cycloxygenase products in the normal rat kidney. Am. J. Physiol. 271: R1227-R1234.

Blantz, R. C.; Konnen, K. S. and Tucker, B. J. 1976. Angiotensin II effects upon glomerular microcirculation and ultrafiltration coefficient of the rat. J. Clin. Invest. 57: 429-434.

Bolotina, V. M.; Najibi, S.; Palacino, J. J.; Pagano, P. J. and Cohen, R. A. 1994. Nitric oxide directly activates calcium-dependent potassium channels in vascular smooth muscle. Nature. 368: 850-853.

Border, W. A. and Noble, N. A. 1998. Interactions of transforming growth factor-beta and angiotensin II in renal fibrosis. Hypertension. 31: 181. (Abstract).

Boutard, V.; Havouis, R.; Fouqueray, B.; Plulppe, C.; Moulinoux, J. and Baud, L. 1995. Transforming growth factor β stimulates argiase activity in macrophages: Implications for the regulation of macrophage cytotoxicity. J. Immunol. 155: 2077-2084.

Brezis, M. et al. 1991. Role of nitric oxide in renal medullary oxygenation. Studies in isolated and intact rat kidneys. J. Clin Invest. 88: 390-395.

Cachat, F.; Lange-Sperandio, B.; Chang, A. Y.; Kiley, S. C.; Thornhill, B. A.; Forbes, M. S. and Chervalier, R. L. 2003. Ureteral obstruction in neonatal mice elicits segment-specific tubular cell resposes leading to nephron loss. Kidney Int. 63: 564-575.

Carey, R. M.; Jin, X.; Wang, Z. and Siragy, H. M. 2000. nitric oxide a physiological mediator of the type 2 (AT2) angiotensin receptor. Acta Physiol. Scand. 168: 65-71.

Chang et al. 2002. NO in obstruction uropathy: Role of eNOS. J.Urology. 168: 1801-1804.

Chevalier, R. L.; Thornhill, B. A. and Gomez, R. A. 1992. EDRF modulates renal hemodynamics during unilateral ureteral obstruction in the rat. Kidney Int. 42: 400-406.

Chung, K. Y.; Agarwal, A.; Uitto, J. and Mauvicl, A. 1996. An AP-1 binding secgmencs is essential for regulation of the human α 2(I) collagen promoter activity by transforming growth factor-β. J. Biol. Chem. 271: 3272-3278.

Curhan, G. C.; McDougal, W. S. and Zeidel, M. L. 2000. Urinary tract obstruction. In Brenner, B. M. (ed), The kidney, (Sixth Edition), pp. 1820-1843. Philadephia; W. B. Saunders.

Dal, C. A., et al. 1979. Effects of 24-hour unilateral ureteral obstruction on glomerular hemodynamics in rat kidney. Kidney Int. 15: 457-462.

Dal, C. A., et al. 1980. Glomerular hemodynamics before and after release of 24-hour bilateral ureteral obstruction. Kidney Int. 17: 491-496.

Dal. C. A., et al. 1977. Effects of acute ureteral obstruction on glomerular hemodynamics in rat kidney. Kidney Int. 12: 403-411.

Davis, M. E.; Cai, H.; Drunnond, G. R. and Harrison, D. G. 2001. Shear stress regulates endothelial nitric oxide synthase expression through c-Src by divergent signaling pathways. Circ. Res. 89: 1073-1080.

Deng, A. and Baylis, C. 1993. Locally produced EDRF controls preglomerular resistance and ultrafiltration coefficient. Am. J. Physiol. 264: F212-F215.

Diamond, J. R.; Ricardo, S. D. and Klahr, S. 1998. Mechanisms of interstitial fibrosis in obstructive nephropathy. Semin. Nephrol. 18: 594-602.

Eddy, A. A. et al. 1994. Experimental insights in to the tubulointerstitial disease accompanying primary glomerular lesion. J. Am. Soc. Nephrol. 5: 1273-1287.

Feldman, D. L.; Mogelesky, T. C.; Chou, M. and Jeng, A. Y. 2000. Enhanced expression of renal endothelin converting enzyme-1 and endothelin-A-receptor mRNA in rats with interstitial fibrosis following ureter ligation. J. Cardiovasc Pharmacol. 36: S255-259.

Ferri, C.; Desideri, G.; Baldoncini, R.; Bellini, C.; Valenti, M.; Santucci, A. and De Mattia, G. 1999. Angiotensin II increases the release of endothelin-1 from human cultured endothelial cells but does not regulate its circulation levels. Clin. Sci. (Lond). 96: 261-270.

Finder, J.; Strark, W. W.; Nakayama, D. K.; Geller, D.; Waserloos, K.; Pitt, B. R. and Davies, P. 1995. TGF-β regulates production of NO in pulmonary-artery smooth muscle cells by inhibiting expression of NOS. Am. J. Physiol. 12: L862-L867.

Fitzgerald, J.; Chou, S. Y.; Wauid, A. and Poush, G. J. 2001. Regional expression of inducible nitric oxide synthase in the kidney in dogs with unilateral ureteral obstruction. J. Urology. 166: 1524-1529.

Fleming, I., Bauersachs, J., Fisslthaler, B. and Busse, R. 1998. Ca^{2+}-Independent activation of the endothelial nitric oxide synthase in response to tyrosine phosphatase inhibitors and fluid shear stress. Cir. Res. 82: 686-695.

Fontoura, B. M.; Nussenzveig, D. R.; Timmermans, P. B. and Maack, T. 1991. DuP753 is a potent nonpeptide antagonist of angiotensin II receptors in isolated perfused rat kidney and cultures renal cells. Am. J. Hypertens. 4. 303S. (Abstrct).

Francisco, L. L.; Hoverster, L. G. and Dibona, G. F. 1980. Renal nerves in the compensatory adaptation to ureteral occlusion. Am. J. Physiol. 238: F229-234.

Frokiaer, J.; Knudsen, L.; Nielsen, A. S.; Pedersen, E. B. and Djurhuus, J. C. 1992. Enhanced intrarenal angiotensin II generation in response to obstruction of the pig ureter. Am. J. Physiol. 263: F527-F533.

Fujinaka, H.; Miyazaki, Y.; Matsusaka, T.; Yoshida, H; Fogo, A. B.; Inayami, T. and Ichikawa, I. 2000. Salutary role for angiotensin in partial urinary tract obstruction. idney f the pig ureter. Kidney Int. 58: 2018-2027.

Gabbai, F. B. and Blantz, R. C. 1999. Role of nitric oxide in renal hemodynamics. Semin. Nephrol. 19: 242-250.

Gaedio, K. M.; Siegel, N. J.; Hayslett, J. P. and Kashyarian, M. 1980. Renal perfusion and intratubular pressure during ureteral occlusion in the rat. Am. J. Physiol. 238:F205-F209.

Garcia, G. E., et al. 1997. Effect of reduction of nitric oxide on plasma and kidney tissue angiotensin II levels. Am. J. Hypertens. 10: 1103-1108.

Gess, B., Schricker, K., Pfeifer, M. and Kurtz, A. 1997. Acute hypoxia upregulates NOS gene expression in rats Am. J. Physiol. 273: R905-R910.

Gloy, J., et al. 1998. Angiotensin II modulates cellular functions of podocytes. Kidney Int. 54: S168-S170 (suppl 64).

Gloor, J. M. and Torres, V. E. 1999. Reflux and obstructive nephropaty. Kidneyatlas. [Online]. Availible from: http://www. Kidneyatlas.org./book2/adk2-08.pdf [2002, March, 12]

Gou, G., et al. 2001. Contribution of angiotensin II and tumor necrosis factor-α to the development of renal fibrosis. Am. J. Physiol. 280: F777-F785.

Gunning, M. E.; Ingelfinger, J. R.; King, A. I. And Brenner, B. M. 1996. Vasoactivepeptides and the kidney. In Brenner, B. M. (ed), The Kidney, (Fifth Edition), pp. 627-712. Philadephia: W. B. Saunders.

Guzman, N. J., et al. 1995. Autocrine inhibition of Na^+/K^+ATPase by nitric oxide in mouse proximal tubule epithelial cells. J. Clin. Invest. 95: 2083-2088.

Hammad, F. T., Wheatley, A. M. and Davis, G. 2000. Long-Term renal effects of unilateral ureteral obstruction and the role of endothelin. Kidney Int. 58: 242-250.

Hegarty, N. J., et al., 2001. Nitric oxide in unilateral ureteral obstruction: Effect on regional renal blood flow. Kidney Int. 59: 1059-1065.

Hegarty, J. N.; Watson, W. R.; Yong, S. L.; O'Neill, J. A.; Brady, R. H.; Fitzpatrick, M. J. 2002. Cytoprotective effects of nitrates in a cellular model of hydronephrosis. Kidney Int. 62: 70-77.

Hennington, B. S.; Zhang, H.; Miller, M. T.; Granger, J. P. and Reckelhoff, J. F. 1998. Angiotensin II stimulates synthesis of endothelial nitric oxide synthase. Hypertension 3: 283-288.

Higashi, Y.; Oshima, T. and Ng, O. 1995. Intraveno administration of L-arginine inhibits angiotensin converting enzyme in humans. J. Clin. Endocrinol Metab. 80: 198-202.

Hirata, Y. et al. 1992. Endothelin receptor subtype B mediates synthesis of nitric oxide by cultured bovine endothelial cells. J. Clin. Invest. 91: 1367-1343.

Hochberg, D. et al. 2000. Interstitial fibrosis of unilateral ureteral obstruction is exacerbated in kidneys of mice lacking the gene for inducible nitric oxide synthase. Lab. Invest. 80: 1721-1728.

Horiuchi, M.; Akishita, M. and Dzau, V. J. 1999. Recent progress in angiotensin II type 2 receptor research in the cardiovascular system. Hypertension 33: 613-621.

Huang, A.; Palmer, L. S.; Hom, D.; Valderrama, E. and Trachtman, H. 2000. The role of nitric oxide in obstructive nephropathy. J. Urol. 163: 1276-1281.

Ichikawa, I. 1982. Evidence for altered glomerular hemodynamics during acute nephron obstruction. Am. J. Physiol. 242: F580-F585.

Ichiki, T.; Usni, M. and Kato, M. 1998. Downregulation of angiotensin II type I receptor gene transcription by nitric oxide. Hypertension 31: 342-348.

Ignjatovic, T.; Tan, F.; Brovkovych, V.; Skidgel, R. A. and Erodoes, E. G. 2002. Activation of bradykinin B_1 receptor by ACE inhibitors. Int. Immunopharmacol. 2: 1787-1793.

Inagami, T. 1999. Molecular biology and signaling of angiotensin receptor. J. Am. Soc. Nephrol. 10: S2-S7.

Ishidoya, S.; Morrissey, J.; McCracken, R.; Reyes, A. and Klahr, S. 1995. Angiotensin receptor antagonist ameliorates renal tubulointerstitial fibrosis caused by unilateral ureteral obstruction. Kidney Int. 47: 1285-1294.

Ishidoya, S.; Morrissey, J.; McCracken, R.; Reyes, A. and Klahr, S. 1996. Delayed treatment with enalapil halts tubulointerstitial fibrosis in rats with obstructive nephropathy. Kidney Int. 49: 1110-1119.

Ito, K.; Chen, J.; Vaughan, E. D. Jr.; Seshan, S. V.; Poppas, D. P. and Felsen, D. 2004. Dietary L-arginine supplementation improves the glomerular filtration rate and renal blood flow after 24 hours of unilateral ureteral obstruction in rats. J. Urol. 171: 926-930.

Ito, S., et al. 1993. Endothelium-derived relaxing factor/nitric oxide modulates angiotensin II action in the isolated microperfused rabbit afferent but not efferent arteriole. J. Clin. Invest. 91: 2012-2019.

Johnson, R. A. and Freeman, R. H. 1994. Renin release in rats during blockade of nitric oxide synthesis. Am. J. Physiol. 266: R1723-R1729.

Kagami, S.; Border, W. A.; Miller, D. E. and Noble, N. A. 1994. Angiotensin II stimulates extracellular matrix protein synthesis through activation of transforming growth factor β synthesis in rat glomerular cells. J. Clin. Invest. 93: 2431-2437.

Kakoki, M., et al. 2000. Effect of tetrahydrobiopterin on endothelial dysfunction in rats with ischemic acute renal failure. J. Am. Soc. Nephrol. 11: 301-309.

Kamijo, R., et al. 1994. Requirement for transcription factor IRF-1 in No synthase induction in macrophages. Science. 263: 1612-1615.

Kang, Y. 2002. Acute unilateral obstructive uropathy. Unilateral hydronephrosis. [Online]. Available from: http://www.marylandgeneralhospital.com/ency/article/000498.hm. [2002, March, 12].

Kaneto, H.; Morrissey, J. J. and Klahr, S. 1993. Increased expression of TGF-β1 mRNA in the obstructed kidney of rats with unilateral ureteral ligation. Kidney Int. 44: 313-321.

Karaki, L. T., et al. 1993. Induction of endothelium-dependent relaxation in the rat aorta by IRL 1620, a novel and selective agonist at the endothelin ET_B receptor. Br. J. Pharmacol. 109: 486-490.

Kaneto, H.; Morrissey, J.; McCracken, R.; Reyes, A. and Klahr, S. 1994. Enalapril reduces collagen type IV synthesis and expansion of the interstitium in the obstructed rat kidney. Kidney Int. 45: 1637-1647.

Kihara, M.; Yabana, M.; Toya, Kobayashi, S.; Fujita, T.; Iwamoto, T.; Ischigami, T. and Umemura, S. 1999. Angitensin II inhibits interleukin-1 β - induced nitric oxide production in cultured rat mesangial cells. Kidney Int. 55: 1277-1285.

Klahr, S. 1983. pathophysiology of obstructive nephropathy. Kidney Int. 23: 414-426.

Klahr, S. 1991. New insights into the consequences and mechanisms of renal impairment in obstructive nephropathy. Am. J. Kidney Dis. 18: 689-699.

Klahr, S. 1998. Obstructive nephropathy. Kidney Int. 54: 286-300.

Klahr, S. 2001. Urinary tract obstructive. Semin. Nephron. 21: 133-145.

Klahr, S.; Ishidoya, S. and Morrissey, J. 1995. Role of angiotensin II in the tubulointerstitial fibrosis of obstructive nephropathy. Am. J. Kidney Dis. 26: 141-146.

Klahr, S. and Morrissey, J. 1997. Comparative study of ACE inhibitors and angiotensin II receptor antagonists in interstitial scaring. Kidney Int. 52: S111-S114. (suppl 63).

Klahr, S. and Morrissey, J. 1998. Angiotensin II and gene expression in the kidney. Am. J. Kidney Dis. 31: 171-176.

Klahr, S. and Morrissey, J. 2002. Obstructive nephropathy and renal fibrosis. Am. J. Physiol. 283: F861-F875.

Klahr, S. and Purkerson, M. L. 1994. The pathophysiology of obstructive nephropathy: The role of vasoactive compounds in the hemodynamic and structural abnormalities of the obstructed kidney. Am. J. Kidney Dis. 23: 219-223.

Knerr,I.; Dittrich, K.; Miller, J.; Kummer, W.; Rosch, W.; Weidner, W. and Rascher, W. 2001. Alteration of neuronal and endothelial nitric oxide synthase and neuropeptide Y in congenital ureteropelvic junction obstruction. Urol. Res. 29: 134-140.

Kone, B. C.; Schwobel, J.; Turner, P.; Mohaupt, M. G. and Cangro, C. B. 1995. Role of NF-kB in the regulation of inducible nitric oxide synthase in an MTAL cell line. Am. J. Physiol. 269: F718-F729.

Kubalak, S. W. and Webb, J. 1993. Angiotensin II enhancement of hormone-stimulated cAMP formation in cultured vascular smooth muscle cells. Am. J. Physiol. 264: H86-H96.

Kurokawa. K. 1982. Renal metabolism in obstructive nephropathy. Semin Nephrol. 2: 31-39.

Kurtz, A.; Gotz, K.; Hamann, M.; Kieninger, M. and Wagner, C. 1998. Stimulation of renin secretion by NO doners is related to the cAMP pathway. Am. J. Physiol. 274: F709-F712.

Lahera, V.; Garcia, S. M.; Miranda, G. F.; Moncada, S. and Romero, J. C. 1991. Effect of N^G-nitro-L-arginine methyl ester on renal function and blood pressure. Am. J. Physiol. 261: F718-F722.

Lander, H. M.; Sehajphl, P. K. and Novogrodsk, Y. A. 1993. Nitric oxide signaling: A possible role for G protein. J. Immunol. 151: 7182-7187.

Lane, P. and Gross, S. S. 1999. Cell signaling by nitric oxide. Semin. Nephrol. 19: 215-229.

Lanzone, J. A., Gulmi, F. A., Chou, S. Y., Mooppan, U. M. Kim, H. 1995. Renal hemodynamics in acute unilateral ureteral obstruction:

contribution of endothelium-derived relaxing factor. J. Urology. 153: 2055-2059.

Lassegue, B.; Alexander, R. W.; Clark, M. and Griendling, K. K. 1991. Angiotensin II-induced phosphatidycholine hydrolysis in cultures vascular smooth muscle cells. Biochem. J. 276: 19-25.

Le Cras, T. D., Xue, C., Rengasamy, A. and Johns, R. A. 1996. Chronic hypoxia upregulates endothelial and inducible NOS synthase gene and protein expression in rat lung. Am. J. Physiol. 270: L164-L170.

Lerman, L. and Textor, S. C. 2001. Pathophysiology of ischemic nephropathy. Urologic Clinics of North America 28: 793-803.

Levens, N. R.; Gasparo, M.; Wood, J. M. and Bottari, S. P. 1992. Could the pharmacological differences observed between angiotensin II antagonists and inhibitors of angiotensin converting enzyme be clinically beneficial. Pharmacol. Toxicol. 71: 241-249.

Levine, D. Z., et al. 1994. In vivo modulation of rat distal tubule net HCO_3^- flux by VIP, isoproterenol, angiotensin II and ADH. Am. J. Physiol. 266: F878-F883.

Levine, D. Z., et al. 1996. Immortalized rabbit cortical collecting duct cells express AT1 angiotensin II receptors. Am. J. Physiol. 271: F1147-F1157.

Li, J. Z.; Lovell, H. B.; Sharma, R.; Wiegmann, T. B. and Savin, V. J. 1993. Glomerular hydraulic conductivity is modulated by cyclic nucleotides. FASEB J. 7: A196. (Abstract).

Li, L., et al. 1994. Effect of luminal angiotensin II on proximal tubule fluid transport: Role of apical phospholipase A2. Am. J. Physiol. 266: F202-F209.

Liu, F. Y. and Cogan, M. G. 1989. Angiotensin II stimulates early proximal bicarbonate reabsorption in the rat by decreasing cyclic adenosine monophosphate. J. Clin. Invest. 84: 83-91.

Lo, M., et al. 1995. Subtype 2 of angiotensin II receptors controls pressure-natriuresis in rats. J. Clin. Invest. 95: 1394-1397.

Ma, J., et al. 1998. Accelerated fibrosis and collagen deposition develop in the renal interstitium of angiotensis type 2 receptor null mutant mice during ureteral obstruction. Kidney Int. 53: 937-944.

MaLi-jun and Fogo, A. E. 2001. Role of ANG II in glomerular injury. Semin. Nephol. 21: 544-553.

Maric, C.; Alderd, P. G.; Harris, J. P. and Alcorn, D. 1998. Angiotensin II inhibits growth of cultured embryonic renomedullary interstitial cells through the AT_2 receptor. Kidney Int. 53: 92-99.

Markewitz, B. A.; Michael, J. R. and Kohan, D. E. 1993. Cytokine-induced expression of a nitric oxide synthase in the rat renal tubule cells. J. Clin. Invest. 91: 2138-2143.

Marsden, P. A.; Hall, A. V. and Brener, B. M. 2000. Reactive nitrogen and oxygen intermediates and the kidney. In Brenner, B. M. (ed), The kidney, (Sixth Edition), pp. 701-754. Philadephia: W. B. Saunders.

Matsubara, H. 1998. Pathophysiological role of angiotensin II type 2 receptor in cardiovascular and renal disease. Circ. Res. 83: 1182-1191.

McDougal, W. S.; Rhodes, R. S. and Persky, L. 1976. A histochemical and morphologic study of postobstructive diuresis in the rats. Invest Urol. 14: 169-176.

Mellion, B. T.; Ignarro, L. J.; Ohistein, E. H.; Pontecorvo, E. G.; Hyman, A. L. and Kadowitz, P. J. 1981. Evidence of the inhibitory role of

guanosine 3', 5'-monophosphate in ADP-induced human platelet aggregation in the presence of nitric oxide and related vasodilator. Blood. 57: 946-955.

Miyajima, A., et al. 2000. Interaction of nitric oxide and transforming growth factor -β1 induced by angiotensin II and mechanical stretch in rat renal tubular epithelial cells. J. Urology. 164: 1729-1734.

Miyajima, A., et al. 2001. Role of nitric oxide in renal tubular apoptosis of unilateral ureteral obstruction. Kidney Int. 59: 1290-1303.

Moncada, S. and Higgs, B. A. 1995. Molecular mechanism and therapeutic strategies related to nitric oxide. FASEB J. 9: 1319-1330.

Moncada, S.; Palmer, R. M. and Hiffs, E. A. 1991. Nitric oxide: Physiology, pathophysiology, and pharmacology. Pharmacol Rev. 43: 109-142.

Moody, T. E.; Vaughan, E. D., Jr. and Gillenwater, J. Y. 1975. Relationship between renal blood flow and ureteral pressure during 18 hours of total unilateral ureteral occlusion. Invest. Urol. 13: 246-251.

Moreno, C. et al. 2002. Changes in NOS activity and protein expression during acute and prolonged ANG II administration. Am. J. Physiol. 282: R31-R37.

Moridaira, K., et al. 2003. ACE inhibition increases expression of the ET_B receptor in kidneys of mice with unilateral obstruction. Am. J. Physiol. 284: F209-F217.

Moriyama, T., et al. 1995. Angiotensin II stimulates interleukin-6 release from cultured mouse mesangial cells. J. Am. Soc. Nephrol. 6: 95-101.

Morrissey, J. and Klahr, S. 1996. Transcription factor activation during ureteral obstruction. J. Am. Soc. Nephrol. 137: 1323-1332.

Morrissey, J. and Klahr, S. 1998. Differential effects of ACE and AT1 receptor inhibition on chemoattractant and adhesion molecule synthesis. Am. J. Physiol. 274: F580-F586.

Morrissey, J. and Klahr, S. 1999. Effect of AT_2 receptor blocker on the pathogenesis of renal fibrosis. Am. J. Physiol. 276: F39-F45.

Mundel, P., et al. 1992. Expression of nitric oxide synthases in kidney macula densa cells. Kidney Int. 42: 1017-1019.

Murphy, T. J., et al. 1991. Isolation of a cDNA encoding the vascular type-1 angiotensin II receptor. Nature 351: 233-236.

Nagle, R. B. and Bulger, R. E. 1978. Unilateral obstructive nephropaty in the rabbit. II. Late morphologic changes. Lab. Invest. 38: 270-278.

Nagle, R. B., et al. 1973. Unilateral obstructive nephropathy in the rabbit: Early morphologic, physiologic and histochemical changes. Lab. Invest. 28: 456-467.

Nakayama, I. et al. 1994. Angiotensin II inhibits cytokine-stimulated iNOS expression in vascular smooth muscle cells. J. Biol Chem. 269: 11628-11633.

Nath, K. A. 1992. Tubulointerstitial changes as a major determinant in the progression of renal damage. Am. J. Kidney Dis. 20: 1-17.

Navar, L. G., et al. 1994. Tubular fluid concentrations and kidney contents of angiotensin I and angiotensin II in anesthetized rats. J. Am. Soc. Nephrol. 5: 1153-1158.

Nicola, et al. 1992. NO and ANG II (glomerular and tubular interaction in the rat). J. Clin. Inves. 89: 1248-1256.

Oloverio, M. I., et al. 2000. Abnormal water metabolism in mice lacking the type 1A receptor for ANG II. Am. J. Physiol. 278: F75-F82.

Olson, S. C. 1997. ANG II stimulates eNOS expression in bovine pulmonary artery endothelium. Am. J. Physiol. 273: L315-L321.

Ophascharchroensuk, V., et al. 1999. Obstructive uropathy in the mouse: Role of osteopontin in interstitial fibrosis and apoptosis. Kidney Int. 56: 571-580.

Persson, P. B.; Baumann, J. E.; Ehmke, H.; Hackenthal, E.; Kirchheim, H. R. and Nafz, B. 1993. Endothelium-derived NO stimulates pressure-dependent renin release in conscious dogs. Am. J. Physiol. 264: F943-F947.

Perella, M. A., et al. 1994. Transforming growth factor -β1, but not dexamathasone, down-regulates nitric oxide synthase mRNA after its induction by interleukin-1β in rat smooth muscle cells. J. Biol. Chem. 269: 14595-14600.

Pimentel, J. L, Jr.; Maldonado, M. M.; Wilcox, J. N.; Wang, S. and Luo, C. 1993. Regulation of renin-angiotensin system in unilateral uretral obstruction. Kidney Int. 44: 390-400.

Pimentel, J. L, Jr.; Montero, A.; Wang, S.; Yosipiv, I.; EL-Dahr, S. and Martinez-Msldonado, M. 1995. Sequential changes in renal expression of renin-angiotensin system genes in acute unilateral ureteral obstruction. Kidney Int. 48: 1247-1253.

Pimentel, J. L., Jr.; Sundell, C. L.; Wang, S.; Kopp, J. B.; montero, A. and Martinez-Maldonado, M. 1995. Role of angiotensin II in the expression and regulation of transforming growth factor-β in obstructive nephropathy. Kidney Int. 48: 1233-1246.

Pimentel, J. L., Jr.; Wang, S. and Martinez-Maldonado, M. 1994. Regulation of the renal angiotensin II receptor gene in acute unilateral ureteral obstruction. Kidney Int. 45: 1614-1621.

Poli, G. and Parola, M. 1997. Oxidative damage and fibrogenesis. Free Radical Biol Med. 22: 287. (Abstract).

Prevoost, A. P. and Molenaar, J. C. 1981. Renal function during and after a temporary complete unilateral ureteral obstruction in rats. Invest Urol. 18: 242-246.

Pueyo, M. E. 1998. ANG II stimulates the production of NO and peroxynitrite in endothelial cell. Am. J. Physiol. 274: C214-C220.

Purkerson, M. L. and Klahr, S. 1989. Prior inhibition of vasoconstric normalizes GFR in postobstructed kidneys. Kidney Int. 35: 1305-1314.

Radomski, M. V.; Palmer, R. M. and Moncada. S. 1987. The anti-aggregating properties of vascular endothelium: Interactions between prostacyclin and nitric oxide. Br. J. Pharmacol. 92: 639-646.

Raij, L.; Hayakawa, H. and Jaimes, E. 1998. Cardiorenal injury and nitric oxide synthase activity in hypertension. J. Hypertens. 16: S69-S73. (suppl 8).

Rajagopalan, S.; Laursen, J. B.; Borthayra, A, Kurtz, S.; Keise, J.; Haleen, S.; Giaid, A. and Harrison, D. G. 1997. Role of endothelin-1 in angotensin II- mediated hypertension. Hypertension. 30: 29-34.

Ricardo, S. D., et al 1997. Antioxidant expression in experimental hydronephosis: Role of mechanical stretch and growth factors. Am. J. Physiol. 272: F789-F798.

Risdon, et al. 1968. Relationship between renal function and histological changes found in renal biopsy specimens from patients with persistent glomerular nephritis. Lancet. 2: 363-366.

Roczniak, A. and Burns, K. D. 1996. Nitric oxide stimulates guanylate cyclase and regulates sodium transport in rabbit proximal tubule. Am. J. Physiol. 270: F106-F115.

Roczniak, A.; Zimpelmann, J. and Burns, K. D. 1998. Effect of dietary salt on neuronal nitric oxide synthase in the inner medullary collecting duct. Am. J. Physiol. 275: F46-F54.

Saito, M. and Miyagawa, I. 2000. Real time monitoring of nitric oxide in ischemia-reperfusion rat kidney. Urol. Res. 28: 141-146.

Satoh, M. 2001. Renal interstitial fibrosis is reduced in ANG II type 1a receptor deficient mice. J. Am. Soc. Nephrol. 12: 317-325.

Sasaki, K., et al. 1991. Cloning and expression of a complementary DNA encoding a bovine adrenal angiotensin II type 1 receptor. Nature 351: 230-233.

Savin, V. J. 1986. In vitro effects of angiotensin II on glomerular fuction. Am. J. Physiol. 251: F627-F634.

Schanstra, P. J., et al. 2002. In vivo bradykin B_2 receptor activation reduces renal fibrosis. J. Clin. Invest. 110: 371-379.

Schlatter, E., et al. 1995. Regulation of Na^+/H^+ exchange by diadenosine polyphosphates, angiotensin II, and vasopressin in rat cortical collecting duct. J. Am. Soc. Nephrol. 6: 1223-1229.

Schnerman, J. and Briggs, J. P. 1990. Restoration of tubuloglomerular feedback in volume-expanded rats by angiotensin II. Am. J. Physiol. 259: F565-F572.

Schoedon, G.; Schnuman, M. and Blau, N. 1993. Modulation of human endothelial cell tetrahydrobiopterin synthesis by activating and deactivating cytokines: New perspectives on endothelium-derived relaxating factor. Biochem. Biophys. Res. Commun. 196: 1343-1348.

Schramm, L. P. and Carlson, D. E. 1975. Inhibition of renal vasoconstriction by elevated ureteral pressure. Am. J. Physiol. 228: 1126-1133.

Schreiner, G. F., et al. 1988. Immunological aspects of acute ureteral obstruction: Immune cell infiltrate in the kidney. Kidney Int. 34: 487-493.

Schulsinger, D. A.; Culmi, F. A.; Chou, S.; Mooppan, U. M. and Kim, H. 1997. Activation of the endothelium-derived relaxing factor system in acute unilateral ureteral obstruction. J. Urology. 157: 1951-1956.

Schwobel, J.; Fisher, T.; Lanz, B. and Mohaupt, M. 2000. Angiotensin II receptor subtypes determine induced NO production in rat glomerular mesangial cells. Am. J. Physiol. 295: F1092-F1100.

Sharma, A. K.; Mauer, S. M.; Kim, Y. and Michael A. F. 1993. Interstitial fibrosis in obstructive nephropathy. Kidney Int. 44: 774-780.

Sharma, M., et al. 1998. Documentation of angiotensin receptors in glomerular epithelial cells . Am. J. Physiol. 274: F623-F627.

Shaul, et al. 1995. Prolonged in vivo hypoxia enhances NOS type I and type III gene expression in adult rat lung. Am. J. Respira. Cell. Mol. Biol. 13: 167-174.

Shultz, P. J.; Schorer, A. E. and Raij, L. 1990. Effects of endothelium-derived relaxing factor and nitric oxide on rat mesangial cells. Am J. Physiol. 258: F162-F167.

Sigmon, D. H. and Beierwaltes, W. H. 1993. Angiotensin II: Nitric oxide interaction and the distribution of blood flow. Am. J. Physiol. 265: R1276-R1283.

Siragy, M. H. and Carey, M. R. 1997. The subtype 2 (AT_2) angiotensin receptor mediates renal production of nitric oxide in conscious rats. J. Clin. Invest. 100: 264-269.

Solez, K. et al. 1976. Inner medullary plasma flow in the kidney with ureteral obstruction. Am. J. Physiol. 231: 1315-1321.

Stoll, M.; Steckelinges, M.; Paul, M.; Bottari, P. S. and Metzger, R. 1995. The angiotensin AT_2-receptor mediates inhibition of cell proliferation in coronary endothelial cells. J. Clin. Invest. 95: 651-657.

Stoos, B. A.; Carretero, O. A. and Garvin, J. L. 1994. Endothelial-derived nitric oxide inhibits sodium transport by affecting apical. J. Am. Soc. Nephrol. 4: 1855-1860.

Sutherland, S. E., et al. 2001. Urinary tract obstruction. eMedicine Journal 2: 164-168.

Terada, Y.; Tomita, K.; Nonoguchi, H. and Maruno, F. 1992. Polymerase chain reaction localization of constitutive nitric oxide synthase and soluble guanylate cyclase messenger RNAs in microdissected rat nephron segments. J. Clin. Invest. 90: 659-665.

Thekkumkara, T. J.; Coekson, R. and Linas, S. L. 1998. Angiotensin ($AT1_A$) receptor-mediated increase in transcellular sodium transport in proximal tubular cells. Am. J. Physiol. 274: F897-F905.

Tolins, J. P., Plameer, R. M. J., Moncada, S. and Raiji, L. 1990. Role of endothelium-derived relaxing factor in regulation of renal hemodynamic response. Am. J. Physiol. 258: H655-H662.

Ujiie, K.; Yuen, J.; Hogarth, L.; Donziger, R. and Star R. A. 1994. Localization and regulation of endothelial NO synthase mRNA expression in rat kidney. Am. J. Physiol. 267: F296-F302.

Ungvari, Z.; Sun, D.; Huang, A.; Kaley, G. and Koller, A. 2001. Role of endothelial $[Ca^{2+}]i$ in activation of eNOS in pressurized arterioles by agonists and wall shear stress. Am. J. Physiol. 281: H606-H612.

Valles, P. G. and Manucha, W. A. 2000. H^+ATPase activity on unilateral ureteral obstruction: Interaction of endogenous nitric oxide and angiotensin II. Kidney Int. 58: 1641-1651.

Valles, P.; Pascul, L.; Munucha, W.; Carrizo, L. and Ruttler, M. 2003. Role of endogenous nitric oxide in unilateral uretropelvic junction obstruction in children. Kidney Int. 63: 1104-1115.

Vaughan, E. D.; Sorenson, E. J. and Gillenwater, J. Y. 1970. The renal hemodynamic response to chronic unilateral complete ureteral occlusion. Invest. Urol. 8: 78-90.

Vaziri, N. D. 2001. Effect of chronic renal failure on nitric oxide metabolism. Am. J. Kidney Dis. 38: S74-S79. (suppl 1)

Vodovotz, Y. et al. 1993. Mechanisms of suppression of macrophage nitric oxide release by transforming growth factor beta. J. Exp. Med. 178: 605-613.

Walker, L. M.; Walker, P. D.; Imam, S. Z.; Ali, S. F. and Mayeux, P. R. 2000. Evidence for peroxynitrite formation in renal ischemia-reperfusion injury: Studies with the inducible nitric oxide synthase inhibitor L-N^6-(1-iminoethyl) lysine. J. Phamacol. Exp. Ther. 295: 417-422.

Wong, P. C., et al. 1990. Nonpeptide angiotensin II receptor antagonist. VII. Characterisation of function antagonism displayed by DuP 753, an orally active antithypertensive agent. J. Pharmacol. Exp. Therap. 252: 719-725.

Wolf, G.; Ziyadch, N. F.; Zchroeder, R. and Stahl. A. K. R. 1997. Angiotensin II inhibits inducible nitric oxide synthase in tubular MCT cells by postranscription mechanism. J. Am. Soc. Nephol. 8: 551-557.

Wrigh, F. S. and Briggs, J. P. 1979. Feedback control of glomerular blood flow, pressure, and filtration rate. Physiol. Rev. 59: 958-1006.

Wyken, T. A.; Ritter, C. R.; Marion, N. D. and Gillerwater, Y. J. 1981. Mechanical factors and tissue stresses in chronic hydronephrosis. Invest. Urol. 18: 430-436.

Xie, Q.; Kashiwabara, Y.; Nathan. C. 1994. Role of transcription factor NF-kappa B/Kel in induction of nitric oxide synthase. J. Biol. Chem. 269: 4705-4708.

Xu et al. 1995. Hypoxia activates NOS and stimulates NO production in procine coronary resistance arteriolar endothelial cell. Cardiovas. Res. 30: 841-847.

Yamada, T.; Horiuchi, M. and Dzau, J. V. 1996. Angiotensin II type 2 receptor mediates programmed cell death. Pro. Natl. Acad. Sci. USA. 93: 156-160.

Yarger, W. E. 1991. Urinary tract obstruction. In Brenner, B. M. and Rector, F. C. (ed), The kidney, (Four Edition), pp. 1768-1808. Philadephia; W. B. Saunders.

Yarger, W. E. and Griffith, L. D. 1974. Intrarenal hemodynamics following chronic unilateral ureteral obstruction in the dog. Am. J. Physiol. 227: 816-826.

Yarger, et al. 1980. Obstruction nepropathy in the rat. J. Clin Invest. 65: 400-412.

Yuan, B. H.; Robinette, J. B. and Conger, J. D. 1990. Effect of angiotensin II and norepinephrine on isolated afferent and efferent arterioles. Am. J. Physiol. 274: F741-F750.

Zatz, R. and De Nucci, G. 1991. Effects of acute nitric oxide inhibition on rat glomerular microcirculation. Am. J. Physiol. 261: F360-F363.

Ziegler, et al. 1998. NOS expression in endothelial cell exposed to mechanical forces. Hypertension. 32: 351-355.

APPENDIX

APPENDIX

Buffer and Reagent for Immunohistochemistry

1. Buffer solution preparation

0.2 M Na-KPB pH 7.4

Na_2HPO_4	=	0.162 M	=	22.98 gm/H_2O
KH_2PO_4	=	0.038 M	=	5.16 gm/H_2O

0.1 M Na-KPB pH 7.4

0.2 M Na-KPB	=	1000 ml
H_2O	=	1000 ml

0.1 M Na-KPB (saline) pH 7.4

0.1 M Na-KPB	=	100 ml
NaCl	=	0.8 gm

0.05 M Tris-HCl pH 7.4

Dissolve Tris	6.1 gm in H_2O	= 800 ml
Add 5 N HCl until pH 7.6		
Add H_2O until		= 1000 ml

4% Paraformaldehyde in 0.1 M Na-KPB pH 7.4: 100 ml

Paraformaldehyde	=	4 gm
Add H_2O	=	50 ml in (hood)
Heat at 60°C and stir		
Add 1 N NaOH until clear in color		
Add 0.2 M Na-KPB	=	50 ml

PBS-A (0.3% Triton X-100, 1% BSA)

PBS	=	100	ml
BSA	=	1	gm
Triton X-100	=	0.3	ml

PBS-B (0.1% Triton X-100, 0.25% BSA)

PBS	=	100	ml
BSA	=	0.25	gm
Triton X-100	=	0.1	ml

2. Stock DAB in Tris

Dissolve DAB 60 mg / Tris 12 ml

Filter

Pipette 1 ml into polypropylene tube (about 10 tubes then freeze in refrigerator).

3. Working DAB (0.05% DAB in Tris) 0.01% H_2O_2

Stock DAB 1 tube + Tris 9 ml

Add 3.3 µl of 30% H_2O_2

Sample and Reagent Preparation for Nitrate and Nitrite Assay

Sample Preparation

All samples require at least a 2-fold dilution into Reaction Buffer (1x). After dilution, samples must be ultrafiltered through a 10,000 Molecular Weight cutoff filter to eliminate proteins.

Reagent Preparation

1. *Reaction buffer concentration (1x)*

   Dilute 30 ml of reaction buffer concentration (10x) into distilled water to prepare 300 ml of reaction buffer (1x).

2. *NADH reagent*

   Reconstitute, the NADH with 1 ml distilled water. Allow the NADH to sit for 3 minutes with gentle agitation prior to use. (Keep tightly capped on ice for the duration of the assay).

   Dilution, immediately before use, dilute 900 µl of NADH with 1.8 ml of distilled water (Keep on ice for the duration of the assay).

3. *Nitrate reductase*

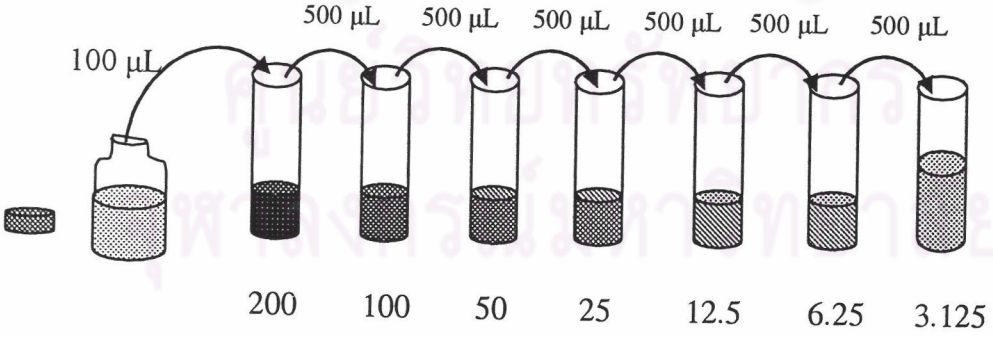
   Reconstitute, the nitrate reductase with 1 ml nitrate reductase storage buffer. Vertex vigorously and allow to sit for 15 minutes at room temperature. Vertex again and allow to sit for an additional 15 minutes at room temperature. Vertex again. (Keep on ice for the duration of the assay).

Dilution, immediately before use, dilute the nitrate reductase using the following equation. Determine the number of wells to be used (all samples and standards should be assayed in duplicate).

a. Nitrate reductase (µl) = (#wells + 2) x 10 µl
b. Reaction buffer (µl) = volume from step a x 1.5
c. Add volumes from steps a and b to a tube, vertex.
d. Place on ice and use within 15 minutes of dilution.

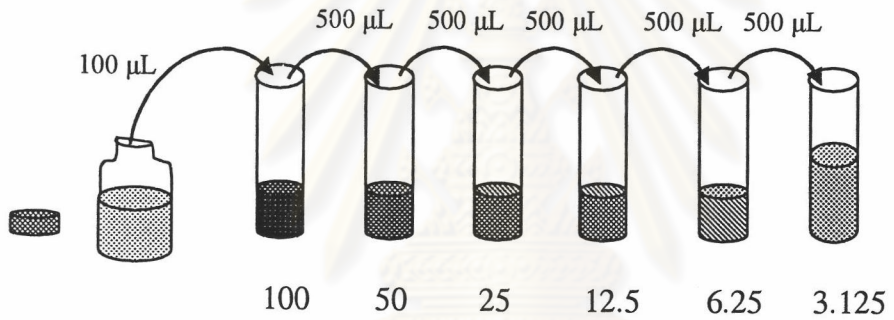
4. *Nitrite Standard*

Pipette 900 µL of Reaction Buffer (1x) into the 200 µmol/L tube. Pipette 500 µL of Reaction Buffer (1x) into the remaining tubes. Use the 2000 µmol/L standard stock to produce a dilution series (below). Mix each tube thoroughly and change pipette tips between each transfer. The 200 µmol/L standard serves as the high standard and the Reaction Buffer (1x) serves as the zero standard (0 µmol/L).



5. Nitrate Standard

Pipette 900 µL of Reaction Buffer (1x) into the 100 µmol/L tube. Pipette 500 µL of Reaction Buffer (1x) into the remaining tubes. Use the 1000 µmol/L standard stock to produce a dilution series (below). Mix each tube thoroughly and change pipette tips between each transfer. The 100 µmol/L standard serves as the high standard and the Reaction Buffer (1x) serves as the zero standard (0 µmol/L).



Nitrite Standard
1000 µmol/L

Describing Data (The mode)

The *mode* is the value that occurs most frequently. Even non-numerical data, for example, the immunohistochemistry staining scores or pathological scores. These scores can have a mode. There, considering the full set of 8 samples, the most frequency presence was 2, so that is the mode. In the present study, immunohistochemistry staining scores and pathological scores in each animal from each group were shown in Table 4 and Table 5, respectively

Table 4 The intensity scores of renal eNOS protein expression in cortex and medulla from left (obstruction) and right (non obstruction) kidney of rats in sham, UUO, UUO+ACEI, and UUO+ARA after 1 day or 7 days post UUO. Sections were scored in blinded, semiquantiative manner by three pathologists.

Groups		1 day									7 days								
		Cortex					Medulla				Cortex					Medulla			
		Pathologist					Pathologist				Pathologist					Pathologist			
		(1)	(2)	(3)	Mode		(1)	(2)	(3)	Mode		(1)	(2)	(3)	Mode		(1)	(2)	(3)	Mode	
Sham	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2	1	1	1	1		1	1	1	1	1	0	1	1	1		1	0	1	1	
	3	0	1	1	1		1	0	1	1		1	1	1	1		1	1	0	1	
	4	1	1	1	1		1	1	1	1		1	1	1	1		1	1	1	1	
UUO + water	1	1-2	2	2	2	2	2	2	2	2	2	2-3	2	2	2	2	2	2	2	2	2
	2	2	2	2	2		1-2	1-2	2	1-2		2	2	2	2		2	2	2	2	
	3	2	1-2	1-2	1-2		2	2	2	2		1-2	2	1-2	1-2		1-2	1-2	1	1-2	
	4	1	1-2	1	1		1-2	1	1-2	1-2		2	2	2	2		1-2	1	1-2	1-2	
	5	2	2	2	2		2	2	2	2		2	2	2	2		2	2	2	2	
	6	2	1-2	1-2	1-2		2	2	2	2		2	2	2	2		1-2	1-2	1	1-2	
	7	1	1-2	1-2	2		1-2	1-2	1	1-2		1-2	1-2	1-2	1-2		1	2	2	2	
	8	2	2	2	2		2	2	2	2		2	2	2	2		1-2	2	2	2	
UUO + ACEI	1	1-2	1-2	1-2	1-2	1-2	2	1-2	1-2	1-2	1-2	2	2	2	2	2	3	3	2	3	3
	2	1-2	2	1-2	1-2		2	2	2	2		2	1-2	1-2	1-2		2-3	2	2-3	2-3	
	3	2	2	2	2		1-2	1-2	1-2	1-2		2	2	2	2		2-3	2	2-3	2-3	
	4	1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		3	3	3	3	
	5	1-2	1-2	1-2	1-2		2	2-3	2-3	2-3		1-2	2	2	2		3	3	3	3	
	6	2	1-2	2	2		1-2	2	2	2		2	2	2	2		2-3	3	3	3	
	7	1-2	1-2	1-2	1-2		1-2	2	1-2	1-2		1-2	1-2	1-2	1-2		2	2-3	2-3	2-3	
	8	1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		2	2	2	2		3	3	3	3	
UUO + ARA	1	1-2	1-2	1-2	1-2	1-2	2	2	1-2	2	2	2	2	2	2	2	3	3	3	3	3
	2	1-2	1-2	1-2	1-2		2	1-2	2	2		2-3	2-3	2-3	2-3		3	3	2-3	3	
	3	1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		2-3	3	2-3	2-3		3	3	3	3	
	4	2	2	1-2	2		2	2	2-3	2		2	2	2	2		3	3	3	3	
	5	1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		3	3	2-3	3		2-3	2-3	2-3	2-3	
	6	2	1-2	2	2		1-2	1-2	1-2	1-2		2	2	2	2		3	3	3	3	
	7	1-2	1-2	1-2	1-2		1-2	1-2	1-2	1-2		3	2-3	2-3	2-3		2-3	3	2-3	2-3	
	8	1-2	2	2	2		2-3	2-3	2	2-3		2	2	2	2		3	3	3	3	

Table 5 The pathological scores of renal cortex and medulla from left (obstruction) and right (non obstruction) kidney of rats in sham, UUO, UUO+ACEI, and UUO+ARA after 1 day or 7 days post UUO. Sections were scored in blinded, semiquantiative manner by three pathologists.

Groups		1 day									7 days								
		Cortex					Medulla				Cortex					Medulla			
		Pathologist					Pathologist				Pathologist					Pathologist			
		(1)	(2)	(3)	Mode		(1)	(2)	(3)	Mode	(1)	(2)	(3)	Mode		(1)	(2)	(3)	Mode	
Sham	1	0	0-1	0-1	0-1	0-1	0	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1
	2	0-1	0-1	0-1	0-1		0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1		0-1	0-1	0-1	0-1	
	3	0-1	0-1	0-1	0-1		0-1	0-1	0-1	0-1	0-1	0-1	0-1	0-1		0-1	0-1	0-1	0-1	
	4	0-1	0-1	0	0-1		0-1	0-1	0	0-1	0-1	0-1	0	0-1		0	0-1	0-1	0-1	
UUO + water	1	2	2-3	2-3	2-3	2-3	2	2	2	2	3	2	2	2	3	2-3	2	2	2	3
	2	2-3	2-3	3	2-3		2	2-3	2-3	2-3	2-3	3	3	3		3	3	3	3	
	3	3	2-3	3	3		2	2	2-3	2	2-3	3	3	3		2	3	3	3	
	4	2-3	3	2-3	2-3		2-3	3	2-3	2-3	3	2-3	3	3		2-3	2-3	3	2-3	
	5	2	2-3	2-3	2-3		2-3	2-3	2	2-3	3	3	2-3	3		2	3	3	3	
	6	3	2-3	2-3	2-3		2-3	3	2-3	2-3	3	2-3	3	3		2-3	2-3	2-3	2-3	
	7	2-3	2-3	2-3	2-3		2-3	3	3	3	3	3	3	3		3	3	3	3	
	8	2-3	2	2-3	2-3		3	3	3	3	2-3	3	2-3	2-3		2-3	3	3	3	
UUO + ACEI	1	1-2	1-2	1-2	1-2	1-2	1	1	1-2	1	1-2	1-2	1-2	1-2	1-2	1	1	2	1	1-2
	2	1-2	2	2	2		1-2	1-2	1-2	1-2	1	1-2	1-2	1-2		1-2	1-2	1-2	1-2	
	3	1-2	1-2	2	1-2		1-2	2	1-2	1-2	1-2	2	2	2		1-2	2	1-2	1-2	
	4	1	1	1	1		1	1-2	1	1	2	1-2	2	2		1-2	1-2	1-2	1-2	
	5	2	1-2	1-2	1-2		1-2	2	2	2	1	1	1-2	1		1	2	2	2	
	6	1	2	2	2		1-2	1-2	1	1-2	2	2	1-2	2		2	1-2	2	2	
	7	2	2	1-2	2		2	1	2	2	1-2	1-2	1	1-2		2	1	1-2	1-2	
	8	1-2	1-2	1-2	1-2		2	1-2	1-2	1-2	1-2	1-2	1-2	1-2		1-2	2	1-2	1-2	
UUO + ARA	1	2	1-2	2	2	1-2	1-2	2	2	2	2-3	2-3	3	2-3	2-3	2-3	3	3	3	2-3
	2	1	1	2	1		1-2	1-2	1-2	1-2	2	2-3	2-3	2-3		2	2-3	2	2	
	3	1-2	1-2	1-2	1-2		2	2	1	2	3	2-3	2-3	2-3		2-3	2	2-3	2-3	
	4	1-2	2	1-2	1-2		1-2	2	1-2	1-2	2-3	3	3	3		2-3	2-3	2-3	2-3	
	5	2	1-2	1-2	1-2		1-2	1	1-2	1-2	2-3	2	2-3	2-3		3	3	2	3	
	6	1-2	2	2	2		2	1-2	1-2	1-2	2	2	2	2		2-3	2-3	2-3	2-3	
	7	1	1-2	1-2	1-2		1-2	1-2	2	1-2	2	2-3	2-3	2-3		3	3	3	3	
	8	1-2	2	1-2	1-2		1	1-2	1-2	1-2	2-3	2	2-3	2-3		2-3	2-3	2-3	2-3	

BIOGRAPHY

Miss. Jintana Tanyong was born on November 14, 1977 in Singburi province, Thailand. She received the Bachelor degree of Science in Physical Therapy in 1999 from Srinakharinwirot University, Bangkok, Thailand. She has entrolled at Chulalongkorn University in graduate program for the Degree of Master of Science in Physiology and graduated in 2004.