

[1,2,4]oxadiazolo[4,3-a]quinoxalin-1-one (ODQ) and nitric oxide synthase (NOS) inhibitor N(G)-nitro-L-arginine (L-NOARG, 10 microm). Effects of GH on the production of tissue cyclic guanosine monophosphate (cGMP) in the absence and presence of ODQ and L-NOARG were also elucidated using radioimmunoassay.

Results: ODQ and L-NOARG abolished the relaxation of the tissue induced by EFS, whereas amplitudes were increased by physiological concentrations of GH (1-100 nm). The attenuation of EFS-induced amplitudes by L-NOARG but not ODQ was, in part, reversed by GH. The production of cGMP (pmol cGMP/mg protein) induced by 10 nm GH was abolished in the presence of 10 microm ODQ. In contrast, the combination of GH (10 nm) and L-NOARG (10 microm) maintained cGMP production significantly greater than baseline (0.68 +/- 0.36 vs 1.07 +/- 0.48 pmol cGMP/mg protein).

Conclusions: Our data provide evidence that GH may act on human HCC by an NO-independent effect on guanylyl cyclase activity and may thus explain how growth factors, such as hGH, regulate male erectile function. Copyright 2010 Elsevier Inc. All rights reserved.

Editorial Comment

This group of investigators has been studying the effects of growth hormone for more than 10 years. They have demonstrated previously that growth hormone likely mediates penile erection through its stimulating effect on the cGMP pathway in human cavernous smooth muscle. Later, they compared the in vivo serum profiles of growth hormone in the systemic and cavernous blood samples obtained from healthy volunteers were compared to the serum profiles of patients with erectile dysfunction. In the healthy subjects, systemic growth hormone serum levels significantly increased during penile tumescence, followed by a transient decline from tumescence to rigidity and detumescence. During penile tumescence, the mean increase in the growth hormone levels in the systemic and cavernous blood of patients with organogenic dysfunction, this increase was found to be negligible.

In the present study they found evidence that growth hormone may act on human corpus cavernosum by an effect independent of nitric oxide on guanylyl cyclase activity. The group has to be commended for the important contribution they have been providing during the last years to elucidation of growth hormone activity in human erection

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Atorvastatin protects renal function in the rat with acute unilateral ureteral obstruction

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Objectives: To examine the effects of atorvastatin on renal hemodynamics and urinary microalbumin levels in rats with acute unilateral ureteral obstruction (UUO). Previous studies have demonstrated that treatment with statins attenuated renal structural damages in rodents with chronic UUO. However, it is not known whether statins afford protection of renal function.

Methods: UUO was created by ligation of the left ureter in rats maintained on a regular diet or the same diet but supplemented with atorvastatin (50 mg/kg/d) for 2 weeks. Renal clearance experiments were performed after release of UUO at 1 hour, 6 hours, or 12 hours.

Results: Atorvastatin treatment lowered plasma triglyceride but not cholesterol levels. Both glomerular filtration rate and effective renal plasma flow were significantly greater in atorvastatin-treated rats after release of UUO at 1 hour, 6 hours, and 12 hours. Significant reduction of urinary microalbumin to creatinine ratios occurred in the atorvastatin-treated group at 12 hours but not earlier.

Conclusions: Atorvastatin treatment affords protection of renal function in acute UUO and reduces urinary microalbumin levels without lowering cholesterol levels. This pleiotropic action of atorvastatin on preservation of renal hemodynamics may be important in attenuating subsequent renal structural injury in chronic UUO.

Editorial Comment

Previous studies examined molecular markers of fibrosis and histologic changes in chronically obstructed kidney. This is the first research that analyzed the effects of statins (atorvastatin) on renal hemodynamics of kidneys with ureter acutely obstructed unilaterally. The present investigation showed by the first time that treatment with atorvastatin in rats with acute unilateral ureteral obstruction resulted in improvement in renal perfusion and filtration function.

The authors emphasized that these findings raise the possibility that some of the benefits of statins in the clinical trials may originate from the pleiotropic effects of statins and not specifically from the lipid-lowering effect alone. Also, it is worth to note that the dose of statin used in the present study is proportionally much higher than the doses current used in clinical practice. The authors also remembered that other studies also used supra-pharmacological doses of statins to demonstrate attenuation of tubulo-interstitial inflammation and fibrosis in rats with unilateral ureteral obstruction. Therefore, the dosage of statins required to exert their pleiotropic actions is still unknown and remains to be determined. Anyway, the present study shown that treatment with a statin in rats with acute unilateral ureteral obstruction, resulted in improvement in renal perfusion and filtration function. This open new avenue for renal protective agents.

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RECONSTRUCTIVE UROLOGY

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Management of radiotherapy induced rectourethral fistula

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Purpose: An increasing number of men are being treated with BT or a combination of external beam radiation therapy and BT for localized prostate cancer. Although uncommon, the most severe complication following