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Editorial Comment to Partial outlet obstruction in rabbits: Duration versus severity

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Editorial Comment

Editorial Comment by Dr. Matsumoto to Partial Outlet Obstruction in Rabbits: Duration Vs Severity

The paper by Levin *et al*. describes the correlation of the level of oxidative stress with both the severity and duration of partial outlet obstruction (POB) in rabbits.[1] The study was well designed and rabbit bladder tissue of POB was examined; isolated strips were taken for contractility studies and the balance of the bladder frozen as muscle and mucosa for quantification of nitrotyrosine (NT) and carbonyl-oxidized proteins (derivitized into dinitrophenyl: DNP). Levin *et al*. revealed that there was no increase in either muscle NT or DNP although there was a significant decrease in the contractile responses to all forms of stimulation.[1] In conclusion, they determined oxidative stress may not be a major factor in the decreased contractile responses in the mild obstructive group.

This paper highlights to what extent an oxidative stress caused by POB might have a bearing upon the severity and duration of the obstruction. Contractile responses in terms of severity by bladder weight were similar to those described in many other reports, but comparable responses were not observed for oxidative stress; there were no significant differences between the mild decompensation group and the control group in any of the observation parameters except for a concentration of NT in the mucosa. However, the present results showed a significant increase of oxidative stress in the moderate and severe groups. As to duration of the obstruction, it was demonstrated that a new noticeable impact of oxidative stress is one major pathway in bladder dysfunction, as can be inferred from the progression of the obstructive bladder dysfunction.[1,2]

Levin *et al.* reported the relation between POB-induced changes in bladder function

and bladder blood flow, in detail.[3,4] Recently, the effect of oxidative stress has been reported to be shown in changes in bladder blood flow, especially as disturbance of reperfusion.[2] There have also been reports indicating the possibility that drugs capable of reducing and/or removing oxidative stress may be of use in the treatment and prevention of bladder dysfunction. The disease state of BPH is diverse and varies from one patient to another. It is a fact that the duration and severity of illness from BPH vary with the individual patient at the time a diagnosis of BPH is made, as seen in the study of Levin *et al.*[1] The present results are consistent with that background. Difficulties in treating BPH largely stem from variations in progression of obstructive bladder dysfunction among individual patients; thus measures to reduce oxidative stress-induced bladder damage should be borne in mind when considering treatment strategies.

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Conflict of interest

None declared.

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