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The impact of pneumoperitoneum on renal function and the development of acute kidney injury: comparison between normal and diabetic rats

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**I have no potential conflict of
interest to report**

Introduction and Methods

Introduction:

- Elevated intra-abdominal pressure (IAP), especially in predisposed diabetic patients may lead to post-operative acute kidney injury (AKI).

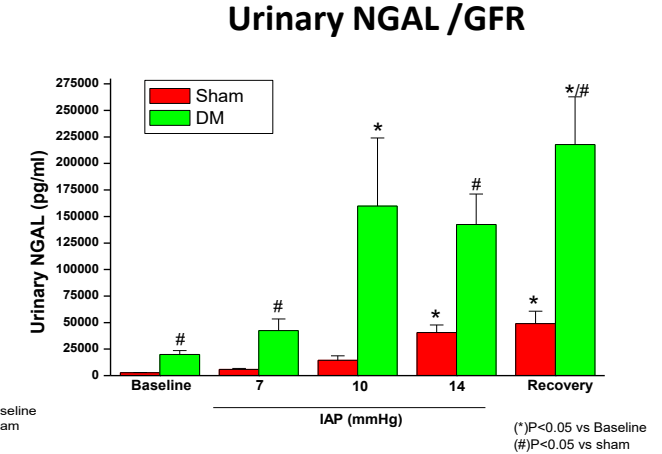
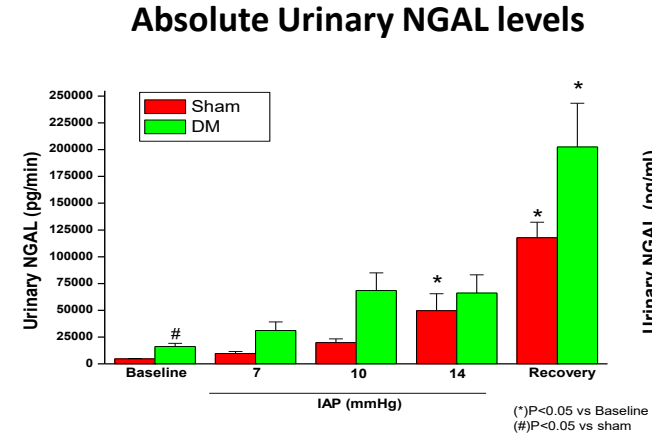
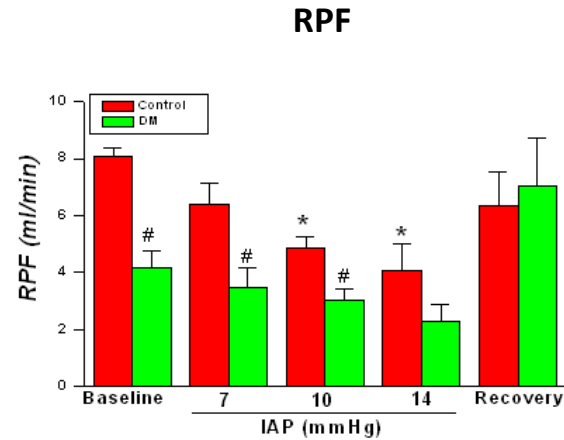
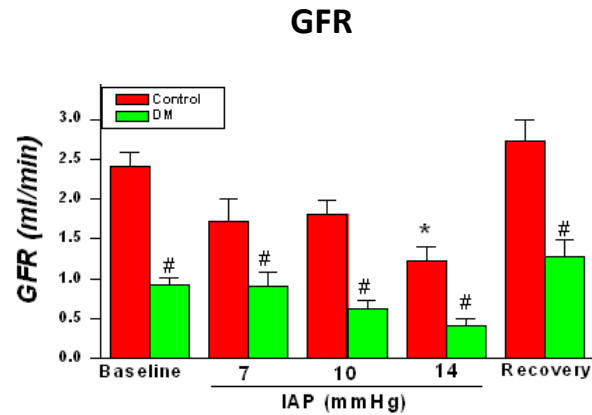


- The aim of this study was to examine whether the effect of pneumoperitoneum on the development of AKI is more pronounced in diabetic rats compared with normal rats.

Methods:

- Rats were divided into two groups (diabetic and non diabetic).
- Via a Veress needle CO2 inflation allowed the intra-abdominal pressure to be increased to desired levels.
- During each pressure point hemodynamic parameters were recorded and urine samples were collected.

Results and conclusions



Conclusions:

- There is a direct correlation between IAP elevation and the development of AKI.
- Diabetic rats were more sensitive to the deleterious effect of pneumoperitoneum.
- NGAL a novel AKI biomarker was affected by pneumoperitoneum and demonstrated a marked elevation in the diabetic rat group.
- Urinary NGAL could be used as a biomarker for postoperative AKI especially in diabetic patients.

