

Role of Dapagliflozin in Attenuation of LPS-induced Hemodynamic Disturbances and Renal-Cardiotoxicity during Euglycemic and Hyperglycemic Conditions

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INTRODUCTION

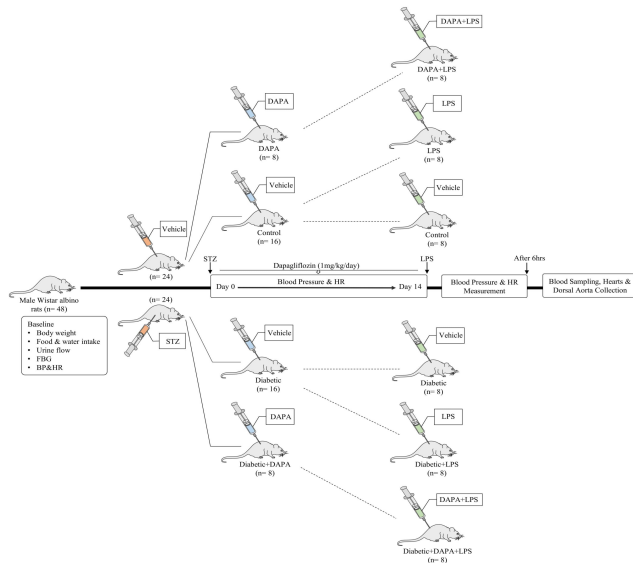
Diabetic patients are at high risk for bacterial infections. Its well-known bacteremia induced septic shock considering as one of the major leading causes of death in critical patients. Dapagliflozin is a sodium-glucose co-transporter-inhibitor, used as an antidiabetic drug and recently investigated to prevent diabetic cardiomyopathy. In this study, we studied the role of dapagliflozin in preventing septic shock-induced hemodynamic changes and renal-cardiotoxicity in LPS-induced septic rats during euglycemia and hyperglycemia.

OBJECTIVES

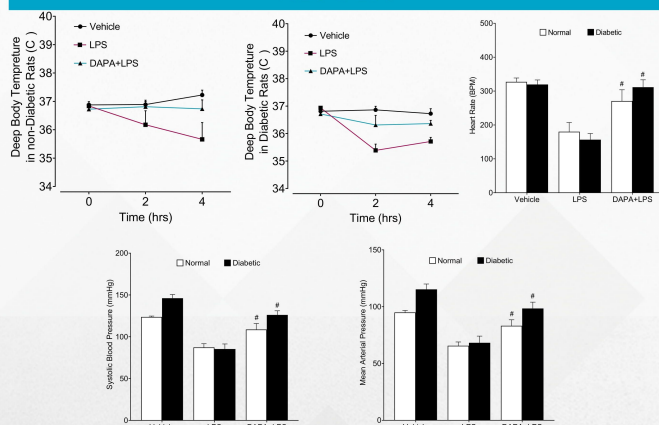
The aim of the study is to investigate the effect of dapagliflozin in LPS-induced hemodynamic disturbances and renal-cardiotoxicity during euglycemic and hyperglycemic conditions, which will be fulfilled as follows:

- Assess the role of dapagliflozin in prevention of hypothermia, bradycardia and hypotension induced by LPS during euglycemic and hyperglycemic conditions.
- Investigate the role of dapagliflozin in regulation of LPS-induced inflammation via assessment of inflammatory mediators such as IL-17A, G-CSF and VEGF, and oxidative stress via measurement of GSH and MDA as oxidative stress markers.
- Investigate whether dapagliflozin modulates inflammation-induced nitric oxide production in aortal tissues during LPS-induced hypotension.
- Study whether dapagliflozin protects aortal, cardiac and renal tissues against LPS-induced blood sepsis using histological studies.

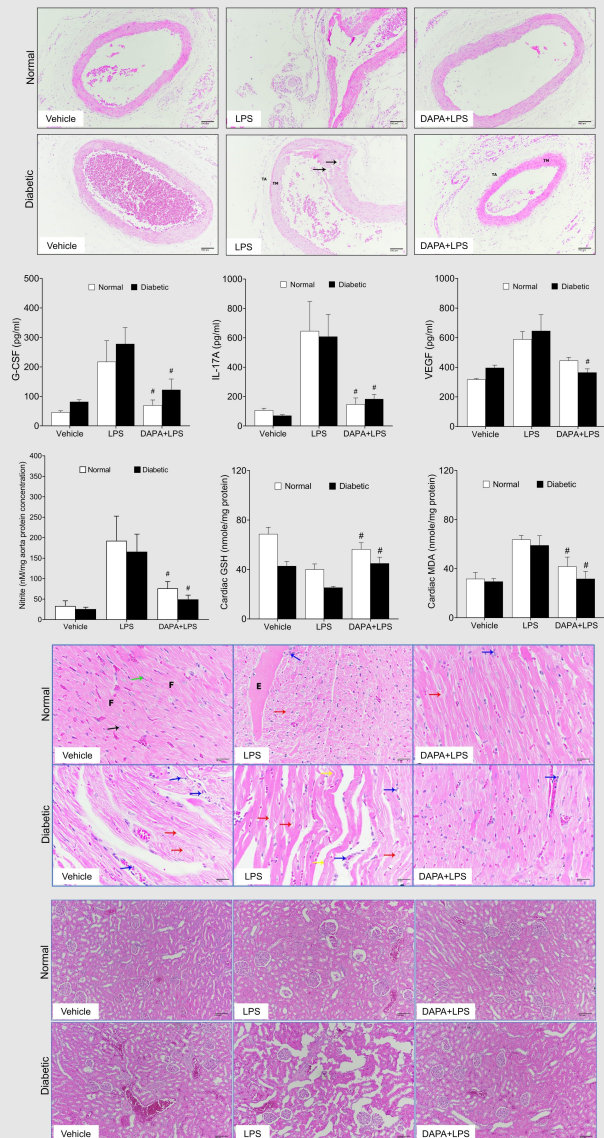
METHODS



RESULTS



RESULTS (CONT.)



Discussion and Conclusions

Our results approved that dapagliflozin attenuated the hemodynamic disturbances, hypotension, and renal-cardiovascular injuries through regulation of nitric oxide production and oxidative stress in LPS-induced septic rats during euglycemia and hyperglycemia.

The obtained results provide new insights into understanding the role of dapagliflozin as antidiabetic agents that exhibits anti-inflammatory properties in infection conditions independent of blood glucose level.

REFERENCES

