

# Role of Exogenous Nitric Oxide Donor in Treatment of Decompensated Hemorrhagic Shock in Normotensive and Hypertensive Rats

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**Introduction.** In this study, we investigated the role of exogenous NO donor, sodium nitroprusside (SNP), on hemodynamic responses and survival rate during decompensated hemorrhagic shock in normotensive and hypertensive rat. **Methods.** Male wistar rats were divided into normotensive and hypertensive groups (n = 12 each). Then, the animals were subjected to decompensated hemorrhagic shock by withdrawing blood until the mean arterial pressure (MAP) reached to 40 mmHg. After the shock period, the animals were randomly assigned to SNP-treated (0.5 mg/kg) and control groups (n = 6 each). MAP and heart rate (HR) were monitored throughout the experiment and 60 min after the administration of drug. Serum NO concentrations were measured. The survival rate was counted during next 24 h. **Results.** Infusion of SNP caused no significant changes in MAP and HR in normotensive and hypertensive animals. Hemorrhagic shock increased serum NO concentration and SNP administration reduced serum NO concentration in either normotensive or hypertensive groups. Survival counts during 24 h after experiment did not improve by SNP administration, and there were no significant differences between normotensive and hypertensive groups. **Conclusion.** SNP administration cannot improve hemodynamic responses and survival count during decompensated hemorrhagic shock in normotensive and hypertensive animals.