

Special Issue

Therapeutic Aspects of Gasotransmitters in Cardiovascular and Renal Disease

Message from the Guest Editors

Gasotransmitters play a central role in signal transduction via guanylate cyclase and cGMP in many tissues. Generally, their effects are vasodilatory, anti-inflammatory and anti-fibrotic. Moreover, all three inhibit mitochondrial respiration. Well-known pharmacological strategies involving NO include NO-donors for pulmonary hypertension and phosphodiesterase-inhibitors for erectile dysfunction. Sodium thiosulfate, is an H₂S donor that appears useful in calciphylaxis in end-stage kidney disease. Therapeutic use of CO, for instance with CO-donors, is in its infancy. This Special Issue focuses on "Therapeutic Aspects of Gasotransmitters in Cardiovascular and Renal Disease". Different donor compounds have a wide range of kinetics. Various compounds target signalling pathways. Tolerance is well-recognised for NO-donors but has barely been addressed for CO and H₂S. The interdependency of cardiac, renal and vascular function, as well as their involvement in systemic conditions, such as diabetes and pre-eclampsia, encourage an integrative systems approach.

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