

THE ROLE OF NITRIC OXIDE IN HYPERTENSION PROGRESSION

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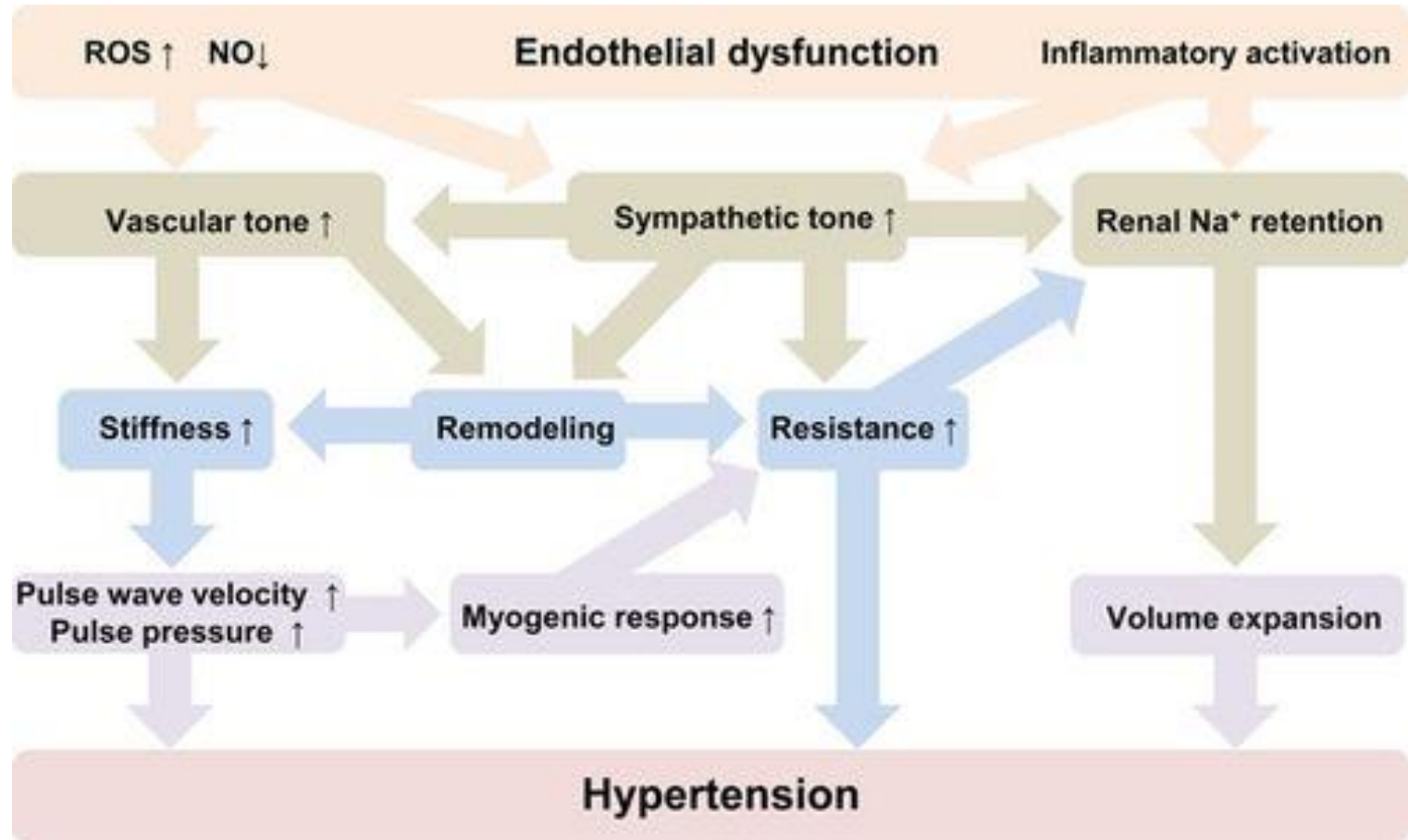
Nitric Oxide (NO): Action

- Beneficial in low optimal concentration, toxic in high concentration
- Long been known as endothelium-derived relaxing factor (EDRF)
- By activating the NO/cGMP pathway
→ smooth muscle relaxation

Role of Nitric Oxide in Hypertension

- Reduced NO plasma concentrations have been observed in patients with essential hypertension
- Endothelium dependent vasodilation is impaired in patients with essential hypertension
- Endothelial dysfunction → impaired transport of L-arginine into the intracellular space → reduce NO bioavailability → **HYPERTENSION**

Reduced NO bioavailability lead to Hypertension



Conclusion

- NO is an important signaling molecule in vascular system.
- NO is beneficial in low optimal concentration
- Low suboptimal NO bioavailability can cause abnormal vascular function lead to hypertension/hypertension progression.
- There are several promising NO-directed therapy that could help prevent and slow hypertension progression.