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Personalized Medicine for High Blood Pressure
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On the cover: The vicious cycle of carotid bodies (CBs) chemoreflex activation in chronic heart failure (CHF) and hypertension. Left, Chronic reduction in CB blood flow (BF) because of left ventricular dysfunction (LVD) evokes altered signaling pathways and oxidative stress in the CBs that enhance CB chemoreceptor activity and reflex activation of sympathetic nerve activity (SNA). The enhanced SNA exacerbates progression of cardiac deterioration, further reduces BF, and enhances CB excitability in CHF. Right, Chronic intermittent episodes of hypoxemia evoke altered signaling pathways and oxidative stress in the CBs that enhance chemoreceptor activity and reflex activation of SNA. The enhanced SNA exacerbates progression of hypertension and further increases CB vascular resistance (VR) to reduce BF and enhance CB excitability. Mechanisms of CB activation in essential hypertension (EH) are unknown but may follow similar pathways. (See page 11.)

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