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ORAL ISOSORBIDE DINITRATE FOR RIGHT VENTRICULAR UNLOADING IN COR PULMONALE 628

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In a randomized, double-blind study, we assessed the effect of high dose oral isosorbide dinitrate (ISDN) on pulmonary hypertension in 13 patients (pts) with chronic obstructive lung disease (COPD) and cor pulmonale. Seven pts received ISDN, mean dose 31 mg, and 6 pts received oral placebo (P). Supine right atrial (RA), pulmonary artery (PA), pulmonary wedge (PW) and brachial artery (BA) mean pressures as well as arterial blood gases and cardiac outputs (CO) were measured resting, after 45 min nasal O_2 (2-3.5 L/min), and for 5 hours after oral medication (without nasal O_2). ISDN-induced changes were evident from 15 min through 180 min. Peak ISDN effects expressed as [(ISDN-baseline)-(P-baseline)] are as follows:

	HR ± SEM	BA	RA	PA
Baseline	83 ± 3.6	86 ± 2.9	9 ± 1.2	41 ± 3.3
On O_2	80 ± 3.3	86 ± 3.3	8 ± 0.9	40 ± 3.0
Peak ISDN change	+6	-11*	-1	-7*

	PW	CO	PVR	PO_2	PCO_2
Baseline	12 ± 1.0	7.2 ± .5	322	48	60.8
On O_2	10 ± 0.7	7.2 ± .5	334	70+	61.3
Peak ISDN change	-1	-0.5	-48	0	+1

*$P<0.01$, +$P<0.001$, PVR = pulmonary vascular resistance in dynes-sec-cm^{-5}

We conclude that high dose oral ISDN is effective and that acute O_2 therapy is ineffective in unloading the right ventricle in chronic cor pulmonale secondary to COPD.