(PVR) from a previously described formula using preejection time, acceleration time and total systolic time. Right atrial pressure (RAP) was estimated from respiratory change of the vena cava inferior.
Results: see table. *p<0.05 vs baseline, †p<0.05 vs NO / Sil. On the next morning, measurements returned to baseline values.
Conclusion: Inhibition of PDE-5 reduces pulmonary hypertension to a similar extent as NO. As expected, the 2 agents have synergistic effects. Thus, PDE-5 inhibitors may be candidates for prevention of high-altitude pulmonary edema in susceptible mountaineers.

	Baseline	NO	Sil	Sil+NO	Sig.
PAP	44±10	32±6*	33±6*	28±5*†	<0.0001
PVR	84±20	72±27	67±22*	64±27*	0.002
RAP	5.9±1.3	5.3±1.4	4.7±1.1*	3.8±1.3*	0.03

11:30 a.m.

811-3 Prognostic Value of Transthoracic Echocardiography in Massive Pulmonary Embolism: A Retrospective Study of 617 Patients

Gérard D. Pacouret, E. Hamel, M. Montout, D. Djeffal Vincentelli, B. Charbonnier, Trousseau Hospital, Tours, France

Right ventricular dilation induced by massive pulmonary embolism (PE) can be easily detected, at bedside, by trans-thoracic echocardiography (EC). To test the prognostic value of this parameter, we retrospectively analyzed a population of 617 consecutive patients admitted to our institution for acute massive PE, and who were evaluated by EC at baseline. Massive PE was defined as angiographic Miller index ≥ 20/34 and/or perfusion lung scan defect ≥ 40 % and/or bilateral central PE on helicoidal CT scan.
Results : Right ventricle/left ventricle end diastolic diameter ratio (RV/LV), calculated from the long axis parasternal view, the subcostal view or the apical 4 chamber view in supine position was assessable in 548 patients (89 %). 27 pts died during the index hospitalization (4.4 %). Univariate analysis revealed that among 7 parameters, only systemic hypotension and RV/LV were significantly associated with the risk of death (see table).
After adjustment to systemic hypotension, contra-indication to thrombolysis and thrombolysis, RV/LV appeared as an independent predictor of in-hospital death (p=0.008) in multivariate analysis.
Conclusion : RV/LV end-diastolic diameter ratio is an independent predictor of in-hospital death in patients suffering from acute massive PE. Thrombolysis could be beneficial in such patients when RV/LV > 0.8, even in the absence of hypotension. A prospective randomized study is mandatory to confirm this hypothesis.

Univariate Analysis Of In-Hospital Risk Factors

	Death	Alive	p
	n=27	n=590	
Age (95% CI)	73.4 (68.4-78.4)	71.4 (70.4-72.4)	0.41
Gender (M/F) (n)	8/19	239/351	0.31
Previous Thrombo-E mbolism (n)	10	219	> 0.99
Contra-Indication to Thrombolysis (n)	14	228	0.23
Thrombolysis (n)	11	169	0.20
RV/LV (95% CI)	1.00 (0.82-1.17)	0.79 (0.77-0.81)	< 0.0001
Systemic Hypotension (n)	12	101	0.001

11:45 a.m.

811-4 Effect of Treprostinil Sodium on Circadian Regulation of Heart Rate Variability in Primary Pulmonary Hypertension

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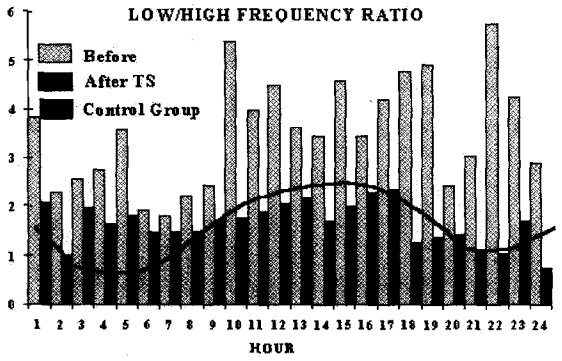
Background: A reduction of heart rate variability (HRV) is now considered as an independent risk factor for morbidity, mortality and severity of several cardiac diseases; however, the dynamic sympathovagal modulation on HRV during 24 hr in primary pulmonary hypertension (PPH) and the therapeutic impact of Treprostinil Sodium (TS) on this modulation has not been described.
Methods: 24 hr-Holter monitoring (HM) were recorded in 15 patients (mean age 34 ± 12; 90% female) with severe PPH (mean pulmonary pressure = 70 ± 12 mm Hg), before and after three months of therapy with subcutaneous TS. The HRV time and spectral parameters (mean, SDNN, SDANN, rMSSD, PNN50, LF, HF and LF/HF ratio) were analyzed during three periods: 24 hr; Day (8-22:00), night (23-07:00) and also during every hour of recording (5 min-intervals).
Results: Circadian rhythm of HRV is clearly disturbed in PPH (increased sympathetic tone) as compared to normal control subjects (p < 0.05). Frequency parameters of HRV during 24 hr-HM were significantly different before and after long-term subcutaneous TS administration (Figure).
Conclusions: The circadian rhythm of HRV in PPH is lost mainly due to an increase of sympathetic tone. This autonomic imbalance may favor the development of arrhythmia, heart failure, and sudden death. The recovery of circadian regulation of HRV detected after long-term TS may be mediated by an improvement in central hemodynamics as a result of TS therapy.



Noon

811-5 Long-Term Survival Comparison in Patients With Primary and Secondary Pulmonary Arterial Hypertension Treated With Chronic Epoprostenol Therapy

Maninder S. Bedi, Jessica Spates-Panyon, Michael M. Mathier, Ajoy Kapoor, Guy A. MacGowan, Dennis M. McNamara, Srinivas Murali, University of Pittsburgh, Pittsburgh, PA

Pulmonary arterial hypertension (PH), whether primary (P) or secondary (S) due to systemic sclerosis (SS) has a poor prognosis. Epoprostenol (E) therapy improves symptoms and survival in PH, though it is not known if the survival benefit from E is different in PPH and SPH patients (pts).
Methods: Baseline hemodynamics (prior to E therapy) and outcomes were assessed in 92 PH pts (Grp A: PPH, n=61, age 44.3± 11.8 years, 87% female, NYHA Class III/ IV 57/ 28%; Grp B: SPH, n=31, age 52.8± 11 years, 74% female, NYHA Class III/ IV 45/ 32%) treated with E infusion. Both Grps had normal baseline resting left ventricular ejection fraction (Grp A: 57±5%, Grp B: 55±5 %). Doses of E were comparable (Grp A: 56±33, Grp B: 57±37 ng/kg/min) and pts were followed for 809± 625 days (range 8-3256 days).
Results: At baseline, Grp A had significantly higher (p<0.05) pulmonary artery (PA) diastolic (38.6±10.9/ 32.8±7.6mmHg), PA Mean (56.4±13.7/49.9±8.8 mmHg) pressures compared to Grp B. Right Atrial and PA systolic pressures, Cardiac index and pulmonary vascular resistance were comparable in the Grps. During follow-up, 16(26%) Grp A and 3(10%) Grp B pts underwent pulmonary transplantation and 19(31%) Grp A and 11(36%) Grp B pts died. The one, two and five year transplant free survival (figure) in the two Grps was comparable (Grp A: 82/59/35%; Grp B: 89/67/38%, p=0.4).
Conclusion: Long-term survival on E therapy is similar in PPH and SPH due to SS, despite higher PA pressures in PPH pts at initial presentation.