

**PRELIMINARY OBSERVATION BY DOPPLER ECHOCARDIOGRAPHY
OF REDUCTION OF THE PULMONARY ARTERIAL HYPERTENSION
IN PATIENTS TREATED BY ACCELERATOR OF EXPIRATORY FLOW
(Free-Aspire MPR)**

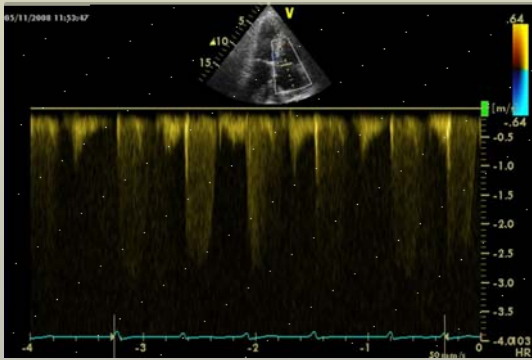
M. Solinas, G. Mengozzi, G. Solarino M. Zingoni , A. Di Vincenzo, R. Albertelli, A. Frijia , M. Petrilli

BACKGROUND
FREE-ASPIRE is a electromedical machine for removing broncho-alveolar mucus. It is a new technology called VAKUM that can improve the removal of secretions in a noninvasive way by accelerating the expiratory flow. The secretions are mobilized into the upper airways in patients unable to expectorate or swallow them. Its effectiveness in improving the ventilation, also in peripheral pulmonary zones, and redistributing the blood perfusion has been documented by pulmonary scintigraphy from ventilation and perfusion.

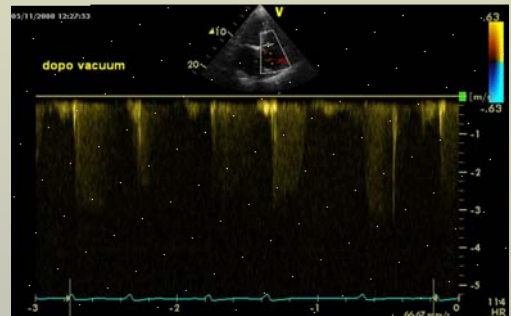


THE AIM OF THIS STUDY WAS TO EVALUATE THE IMPACT OF THIS TRAITMENT ON THE REDUCTION OF PULMONARY PRESSION TROUGHT THE REDUCTION OF PERIPHERAL PULMONARY RESISTANCES

METHODS
6 patients (5 m, 1 f), average $70,67 \pm 8,41$ with secondary light-moderate pulmonary hypertension due to COPD or heart failure in stable phase (EF > 40%) underwent ECHOCARDIOGRAPHY before and after FREE-ASPIRE treatment (20 minutes), during a medium follow-up period of 72 hours, to evaluate PAPS and IT.



Basal Tricuspid Regurgitation



Tricuspid Regurgitation after Free ASpire

RESULTS			
	BEFORE Free-Aspir	AFTER Free-Aspir (20 min and 72 h)	P
PAPS (mmHg)	39,33 ± 11,5	31,5 ± 9,73 ⇒ 30,2 ± 5	P < 0 ,01
TI (m/sec)	0,93 ± 0,52	1,11 ± 0,43	
CO (l/min)	3,8 ± 1,3	4,3 ± 1,8	< 0,1

PAPS = Pulmonary sistolic pressure
TI = tricuspidal inflow
CO = cardiac output

CONCLUSIONS
Free-aspire is an effective and safe treatment to reduce PAPS and to increase right ventricle inflow.
This results was maintained for 72 hours.
Further studies with greater numbers of pts are required in order to confirm tath this apparatus, by means of expiratory flow acceleration, increase the cardiac output, reduces pulmonary resistance and vascular pulmonary resistances determining a redistribution of the blood perfusion and therefore reducing pulmonary hypertension