

**The ECHO-COVID Study:  
Echocardiography Findings in 677 patients admitted to  
intensive care units due to SARS-Cov-2 (COVID)  
infections - A multi-national study**

*Supplementary materials: Figures and Tables*

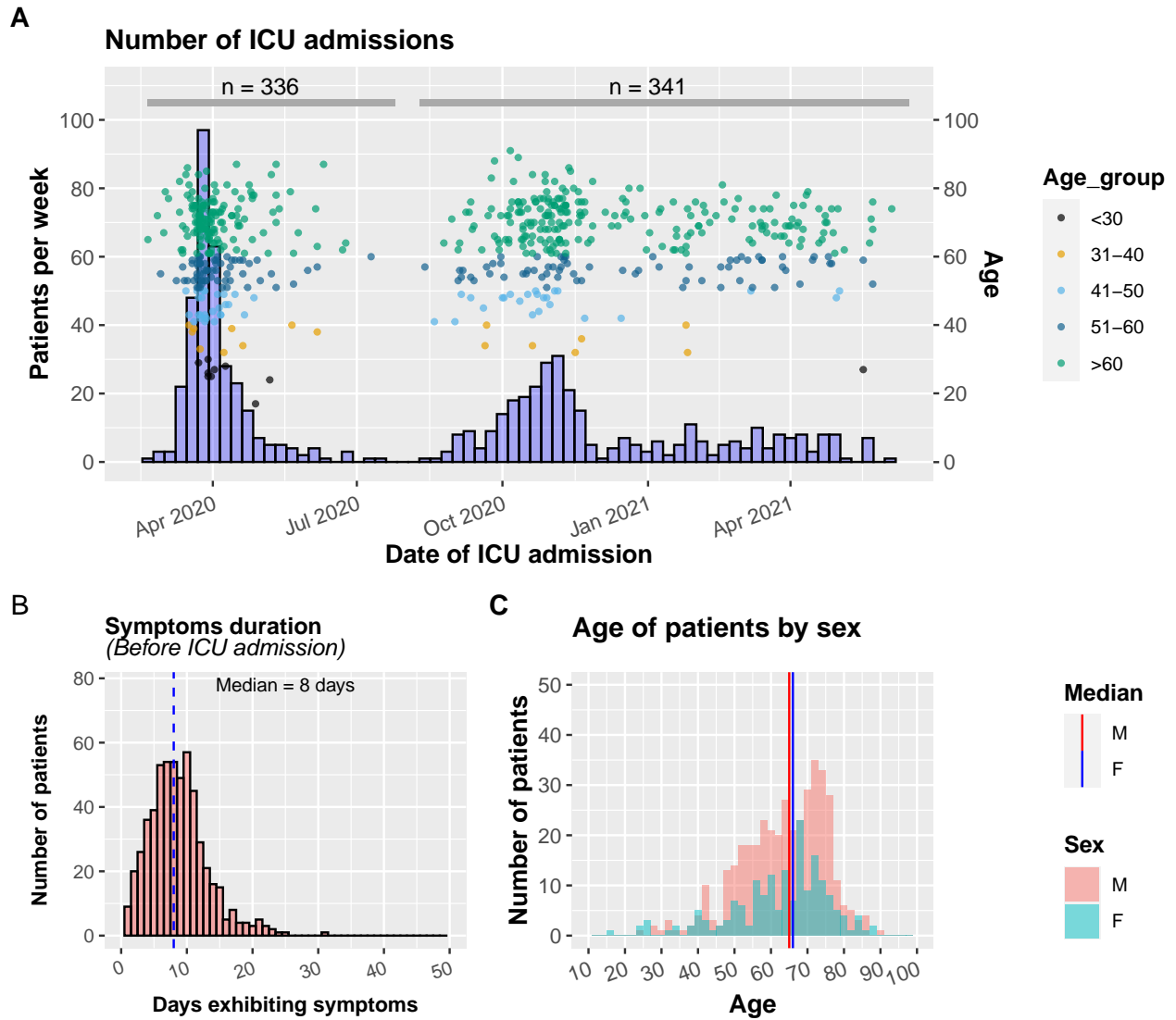
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*on behalf of the **ECHO-COVID** research group*

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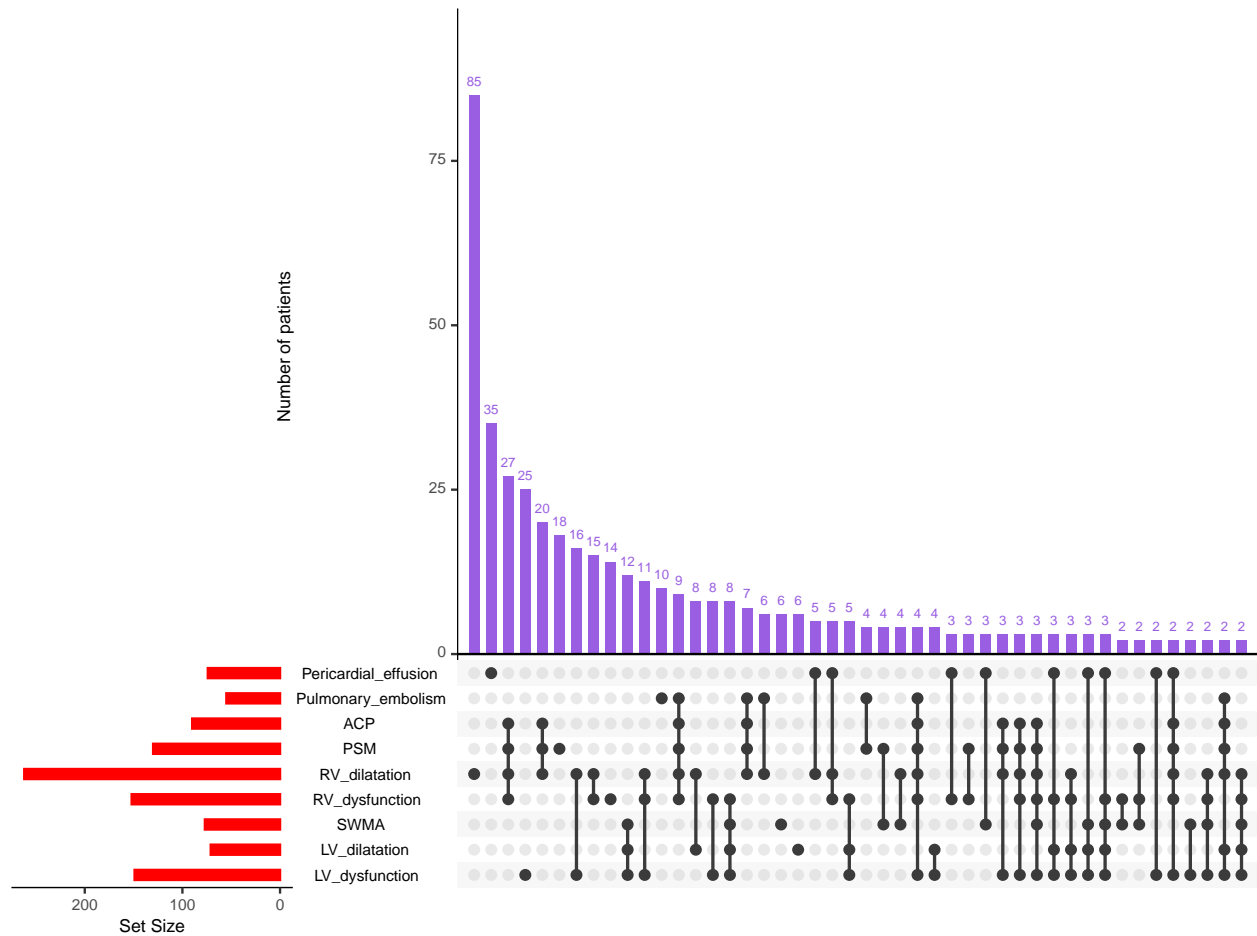
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**Figure S1**



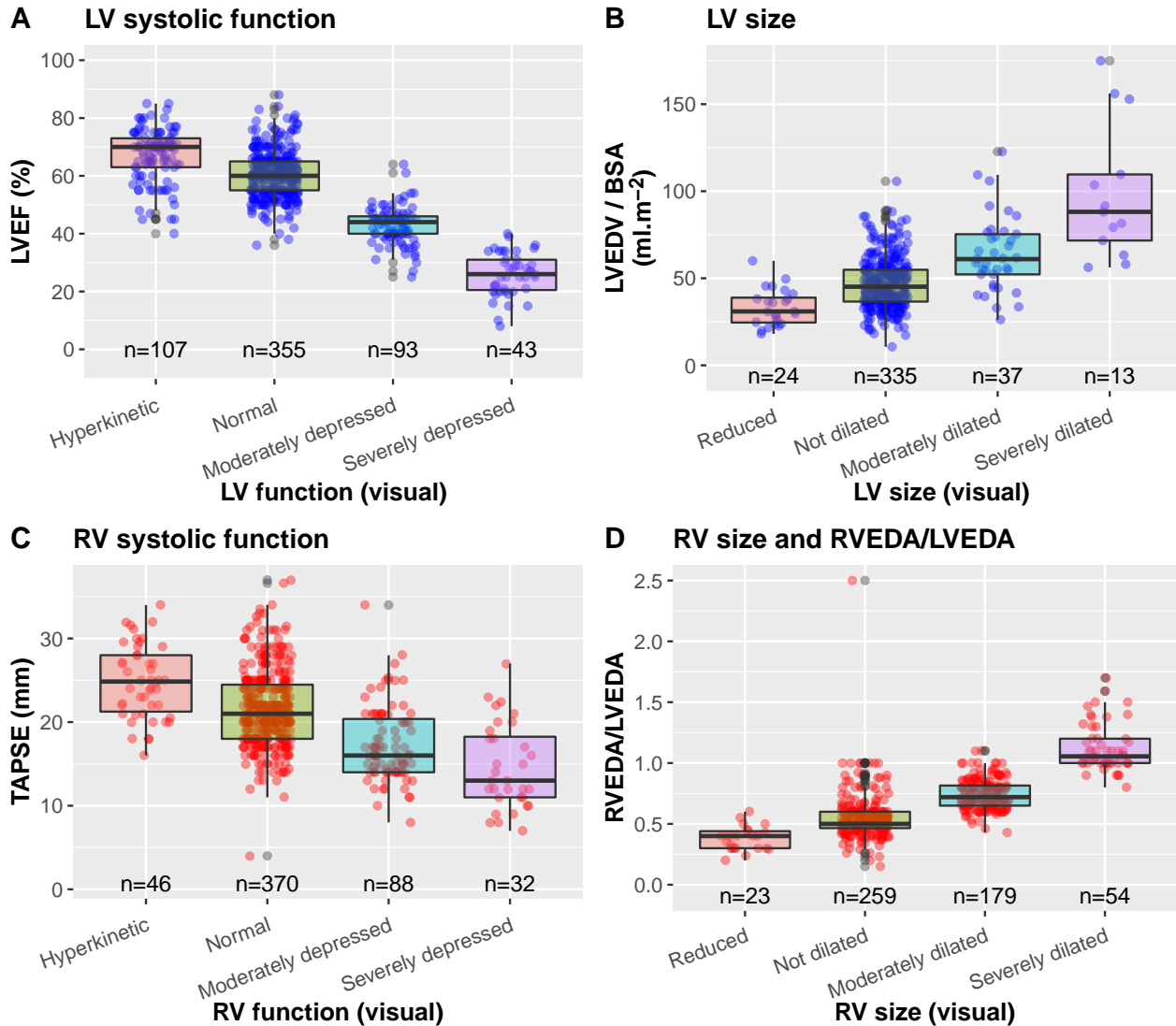
**Figure 1.** *A*, number of ICU admissions per week (histogram). The dots show the distribution of the age of the patients. There were 336 patients in the first wave, and 341 patients in the second/third waves. *B*, the distribution of durations of symptoms onset before ICU admission. *C*, the distributions of age in male and female patients (the histograms were overlapped).

Figure S2



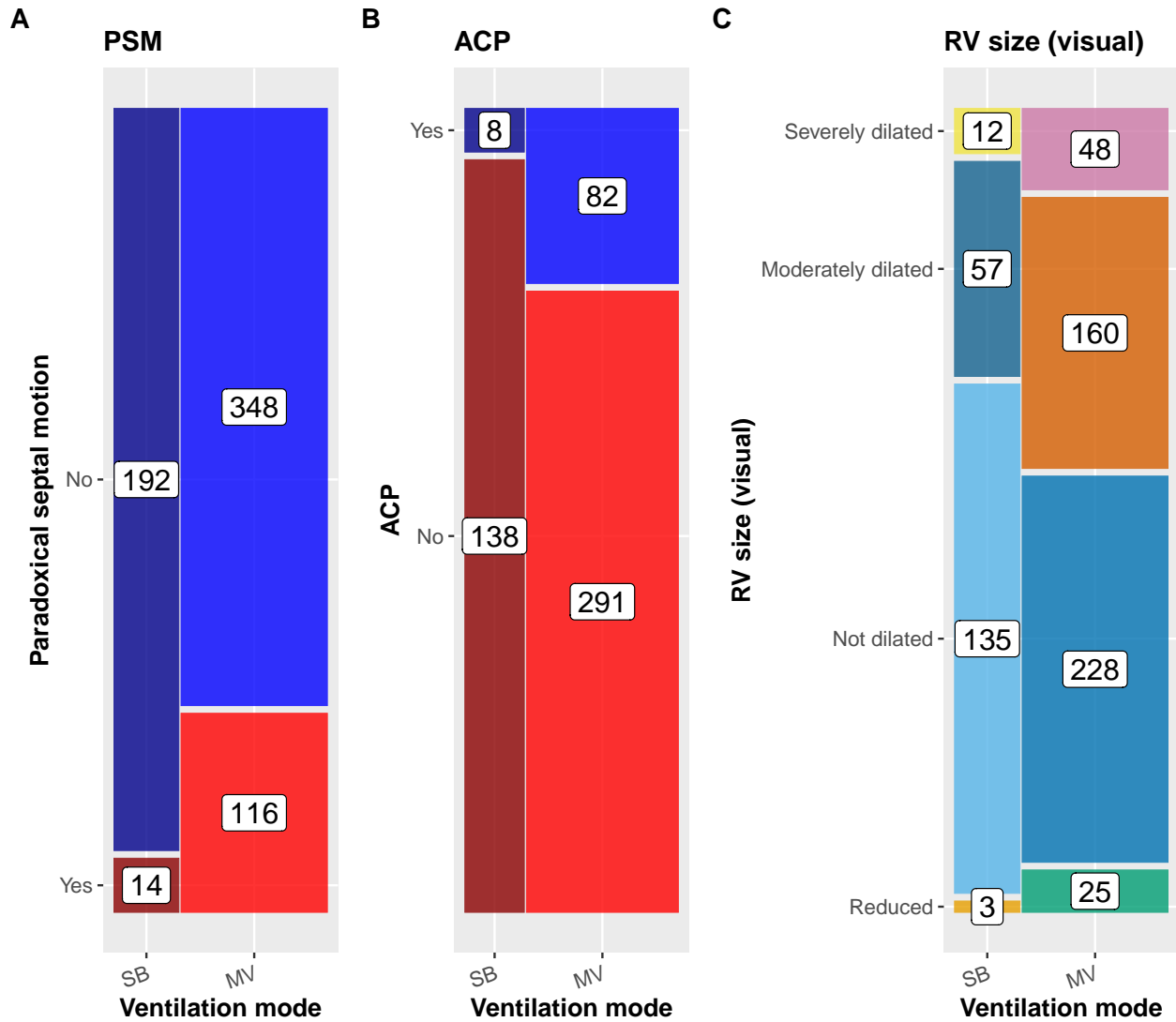
**Figure 2. Upset plot** showing the number of patients with different combinations of echocardiography identifiable pathologies. The horizontal bar chart (bottom left) shows the number of patients with different pathologies. The black dots denote the presence of the corresponding pathologies, and the combination of pathologies is represented by a vertical line joining the dots. The number of patients with a particular combinations of pathologies are shown in the vertical bar charts (blue). Note only the combinations with a minimum of 2 patients are shown. Abbreviations: ACP = acute cor pulmonale; PSM = paradoxical septal motion; SWMA = segmental wall motion abnormality.

**Figure S3**



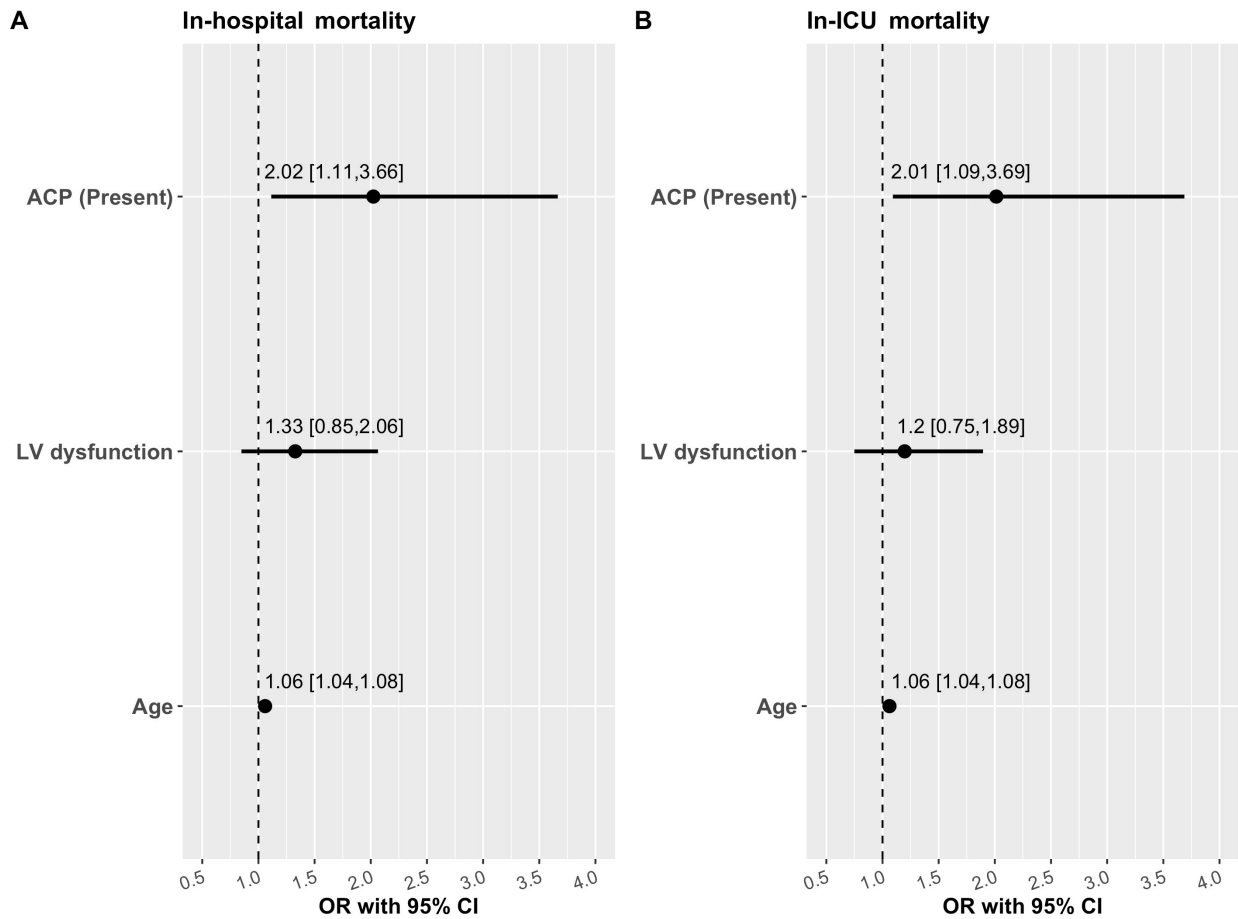
**Figure 3.** **A**, relationship between visual assessment of LV systolic function with LV ejection fraction (LVEF). **B**, relationship between visual assessment of LV size and LV end-diastolic volume (LVEDV) indexed to body surface area (BSA). **C**, relationship between visual assessment of RV systolic function with tricuspid annular plane systolic excursion (TAPSE). **D**, relationship between visual assessment of RV size and RV to LV end-diastolic area ratio (RVEDA/LVEDA).

**Figure S4**



**Figure 4. A to C:** Ventilation modes (SB = spontaneously breathing, MV = mechanically ventilated) and paradoxical septal motion (PSM), acute cor pulmonale (ACP), and visual estimation of RV size (visual).

### Figure S5



**Figure 5.** Logistic regression results for in-hospital and in-ICU mortalities. Effect size is reported as odds ratio (OR) with 95% CI. Vertical dashed line (OR = 1) represents no effect.

**Table S1**

**Incidences of pulmonary embolism & mechanical ventilation, and differences in tidal volume, plateau pressure and PaCO<sub>2</sub>**

		PSM		ACP	
		Present	Absent	Present	Absent
Pulmonary embolism	Present <i>N</i> (%)	31 (7.0%)	23 (5.2%)	23 (6.5%)	24 (6.8%)
	Absent <i>N</i> (%)	71 (16.0%)	318 (71.8%)	48 (13.6%)	259 (73.2%)
	<b>OR [95%CI]</b>	<b>6.00 [3.18 to 11.50]</b>		<b>5.13 [2.55 to 10.39]</b>	
Mode of ventilation	Mechanically ventilated <i>N</i> (%)	116 (17.3%)	348 (51.9%)	82 (15.8%)	291 (56.1%)
	Spontaneously <i>N</i> (%)	14 (2.1%)	192 (28.7%)	8 (1.5%)	138 (26.6%)
	<b>OR [95%CI]</b>	<b>4.56 [2.52 to 8.85]</b>		<b>4.85 [2.26 to 11.94]</b>	
Tidal volume	Mean ± <i>sd</i> ( <i>m</i> ) ( <i>N</i> )	420 ± 84 (104)	440 ± 78 (284)	420 ± 90 (73)	439 ± 78 (234)
	<b>Mean difference [95%CI]</b>	<b>-20 [-2 to -39]</b>		<b>-19 [-4 to -42]</b>	
Plateau pressure	Mean ± <i>sd</i> (mmHg) ( <i>N</i> )	24.4 ± 4.4 (105)	24.9 ± 4.5 (286)	24.2 ± 4.0 (74)	24.6 ± 4.2 (232)
	<b>Mean difference [95%CI]</b>	<b>-0.5 [-1.5 to 0.5]</b>		<b>-0.4 [-0.7 to 1.5]</b>	
PaCO <sub>2</sub>	Mean ± <i>sd</i> (mmHg) ( <i>N</i> )	46.5 ± 12.3 (122)	42.5 ± 10.9 (469)	47.4 ± 13.2 (85)	42.9 ± 10.8 (374)
	<b>Mean difference [95%CI]</b>	<b>4.0 [1.7 to 6.5]</b>		<b>4.54 [1.5 to 7.6]</b>	

Abbreviations: ACP, acute cor pulmonale; PSM, paradoxical septal motion.