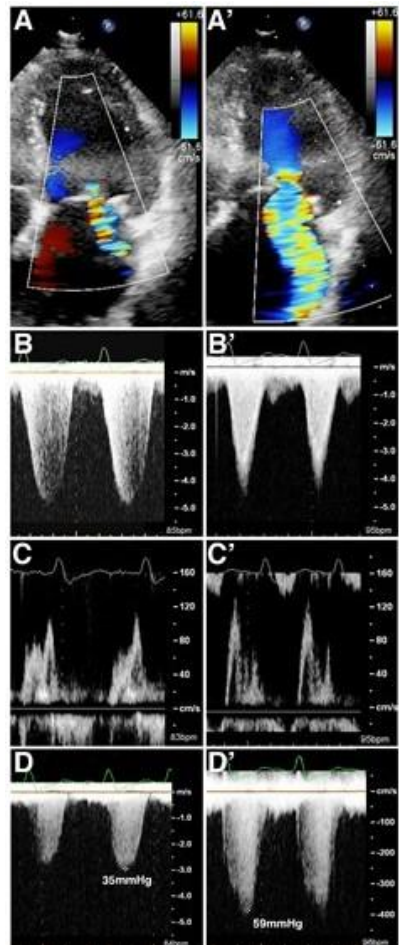


# Transient Acute Mitral Regurgitation (TAMR): a new entity responsible for acute heart failure in patients with preserved left ventricular ejection fraction.

Milleron O<sup>1,2</sup>, Bouleti C<sup>1,2</sup>, Mazouz S<sup>3</sup>, Brochet E<sup>1,2</sup>, Rouzet F<sup>4,5,6</sup>, Nataf P<sup>2,6,7</sup>, Ghodbane W<sup>2,7</sup>, Messika-Zeitoun D<sup>1,2,5,6</sup>, Dilly MP<sup>8</sup>, Cattan S<sup>3</sup>, Vahanian A<sup>1,2,5,6</sup>, Iung B<sup>1,2,5,6</sup>, Jondeau G<sup>1,2,5,6</sup>

<sup>1</sup>Department of Cardiology, APHP, Bichat Hospital, Paris, France <sup>2</sup>DHU Fire, Paris-Diderot University, France <sup>3</sup>Department of Cardiology, Montfermeil Hospital, Paris, France <sup>4</sup>Department of Nuclear Medicine, APHP, Bichat Hospital, Paris, France <sup>5</sup>INSERM U1148 Bichat Hospital, Paris, France <sup>6</sup>Faculté de Médecine Paris-Diderot University, Paris, France <sup>7</sup>Department of Cardiac Surgery, APHP, Bichat Hospital, Paris, France <sup>8</sup>Department of Anaesthesiology, APHP, Bichat Hospital, Paris, France

Only 5 patients with non dilated left ventricle (LV) and normal baseline ejection fraction (LVEF) but occurrence of transient severe MR has been reported in the literature by 3 different teams. We aim to detail clinical and echocardiographic characteristics, and outcome of patients presenting TAMR.



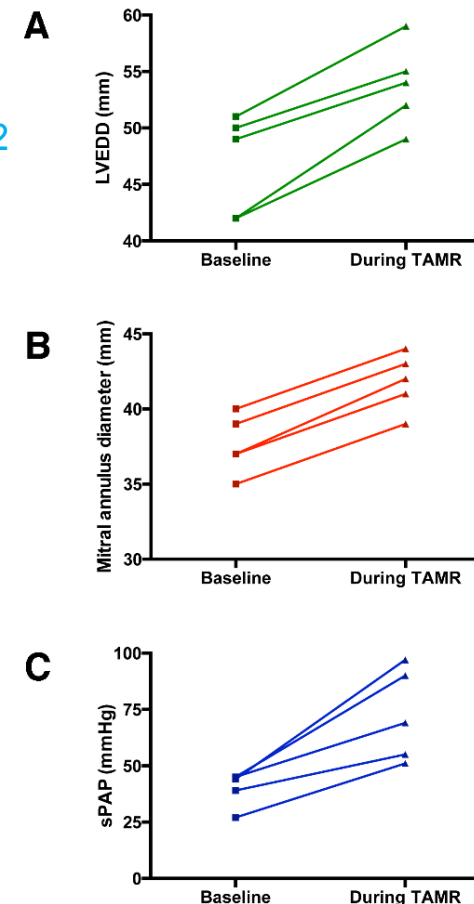
**Methods:** We defined TAMR as an acute restriction in the motion of mitral leaflets preventing coaptation and leading to massive MR with spontaneous regression within 30 minutes, in patients with normal LV end diastolic diameter, LVEF >45% and baseline MR ≤ 2

**Results:** We identified 6 patients who were all post-menopausal women with median age of 74 [57-80] years presenting hypertension (4/6), chronic kidney disease (5/6) or chronic anemia (4/6).

5 patients had a history of atrial fibrillation (AF): permanent AF in 2 and paroxysmal AF in 3. Left bundle branch block (LBBB) was recorded in 5 patients: 3 had a permanent LBBB, 1 an intermittent rate dependent LBBB and 1 a permanent ventricular pacing.

TAMR occurred on normal or mildly thickened mitral valve, normal LVEF (median:58%) and dilated left atria (median: 36.5cm<sup>2</sup>). Five out of 6 patients experienced acute pulmonary edema requiring hospitalisation and underwent mitral valve replacement because of heart failure recurrence.

Two patients died in the first days after surgery while the 3 others, despite a post-operative prolonged ventilatory and inotropic support are free of symptoms at respectively 56, 18 and 10 months follow-up.



**Conclusion:** TAMR is a clinical and echocardiographic syndrome responsible for HF with preserved EF. It is presently underdiagnosed and should be evoked in cases of recurrent acute pulmonary edema without obvious trigger, in particular in patients presenting discordant evaluation of MR severity over time.