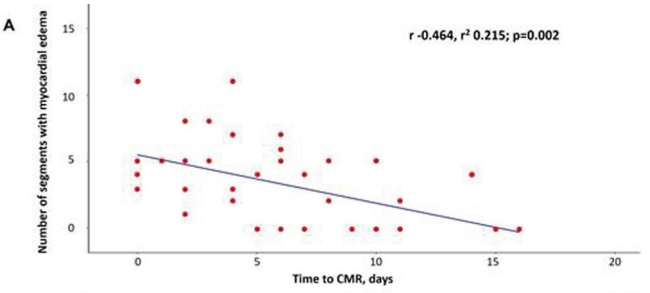
imaging was 5 days (2–7 days). Mean CMR-LVEF was 59±14% and mean wall motion score index (WMSI) was 1.27±0.40. Myocardial edema was found in 30 patients (71%) and mean number of myocardial segments affected by edema was 4.8±2.5. We found a negative correlation between myocardial edema extensión and time from admission to CMR imaging (r -0.464, r2 0.215; p=0.002). CMR-WMSI was significantly higher in patients with myocardial edema (1.36±0.45 vs 1.05±0.08; p=0.03) but we found no differences in mean CMR-LVEF (59±14% vs 59±15%; p=0.93). Widespread negative T-wave development at the time of CMR imaging was associated with a smaller number of myocardial segments with edema (2.9±2.4 vs 6.1±3.4; p=0.03). However, no correlation was found between other ECG features or cardiac biomarkers peak, and myocardial edema.




**Conclusions:** Myocardial edema is a common CMR finding in TTS patients and showed a progressive recovery over time. Delaying the performance of CMR during hospital admission reduces substantially the possibility of identifying myocardial edema. Other clinical factors (ECG changes and cardiac biomarkers) are not reliable predictors of edema by CMR. Moreover, our study suggests that in TTS patients recovery of contractility passes through a previous recovery of edema.

### P4393
### The clinical characteristics of mortality in patients with Takotsubo Syndrome during hospitalization-A Multicenter Registry in Eight-University Hospitals in East Japan

T. Murakami[1], Y. Ikari[1], S. Taniai[2], Y. Ishibashi[3], I. Taguchi[4], J. Ako[5], H. Kyono[6], M. Yoshizawa[7], T. Itoh[7], Y. Morino[7], R. Kato[8], M. Sakuma[9], H. Sugimura[10], Y. Akashi[3], H. Yoshino[2]. *[1]Tokai University, Kanagawa, Japan; [2]Kyorin University, Tokyo, Japan; [3]St. Marianna University, Kawasaki, Japan; [4]Dokkyo Medical University Koshigya Hospital, Koshigaya City, Japan; [5]Kitasato University School of Medicine, Kanagawa, Japan; [6]Teikyo University, Tokyo, Japan; [7]Iwate University Hospital, Iwate, Japan; [8]Saitama Medical University, Saitama, Japan; [9]Dokkyo Medical University, tochigi, Japan; [10]Dokkyo Medical University Nikko Medical Center, Tochigi, Japan*

**Background:** The purpose of this study was to evaluate the clinical characteristics of mortality in patients with Takotsubo Syndrome (TS) during hospitalization.
**Methods:** The study cohort consisted of 342 consecutive patients with TS in the each acute coronary syndrome registry of eight-university hospitals in east Japan (n=10,622). Patients were divided into the mortality group (n=32; 9.4%) and the survival group (n=310; 90.6%). We attempted to characterize clinical differences during hospitalization, comparing the mortality group and the survival group with TS.
**Results:** There were 12 patients with cardiac death including cardiogenic shock, pump failure, oozing cardiac rupture and ventricular fibrillation and 20 patients with non-cardiac death. Male gender (40.6% vs. 18.7%; p<0.01) and the presence of physical or stress trigger (84.4% vs. 65.9%; p=0.03) were more common in the mortality group. There were no significant differences in age (71.6±11.2 years vs. 71.0±11.2 years; p=0.38), diabetes (13.3% vs. 16.9%; p=0.61), old myocardial infarction (0% vs. 1.0%; p=0.58), and psycho-neurologic disease (6.7% vs. 8.4%; p=0.61). While, carcinoma under treatment was more common in the mortality group (30.0% vs. 8.1%; p<0.01). Multivariate logistic regression analysis confirmed male (odds ratio 2.7; 95% CI: 1.2–6.0; p=0.02) was an independent predictor of mortality during hospitalization.
**Conclusion:** Male patients with TS were associated with high mortality during hospitalization.

### P4394
### Diabetes paradox in Tako-Tsubo cardiomyopathy: beneficial effect of diabetes on myocardial edema

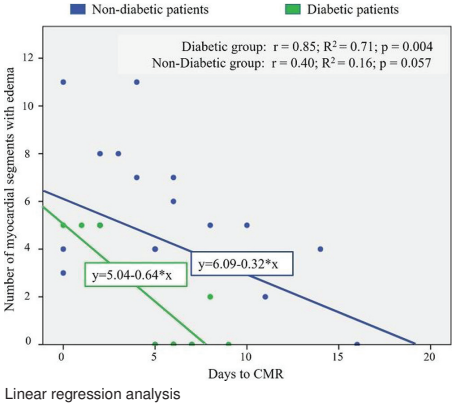
T. Alvarado[1], A. Cecconi[1], P. Antuna[1], J. Salamanca[1], M.T. Nogales-Romo[1], D. Viliani[1], E. Pozo[1], G. Diego[1], A. Rojas-Gonzalez[1], F. Rivero[1], S. Hernandez Muniz[2], M.J. Olivera[2], P. Caballero[2], J. Jimenez-Borreguero[1], F. Alfonso[1]. *[1]University Hospital De La Princesa, Cardiology, Madrid, Spain; [2]University Hospital De La Princesa, Radiology, Madrid, Spain*

**Background:** Myocardial edema constitutes a major feature in patients with Tako-Tsubo syndrome (TT) and this phenomenon can be readily detected by cardiac magnetic resonance (CMR).
**Purpose:** To identify potential factors related to the presence, extension and timing of myocardial edema recovery in these patients.
**Methods:** We retrospectively analyzed 32 consecutive patients admitted with a diagnosis of apical TT who underwent cardiac CMR. Clinical, electrocardiographic, laboratory, morphological and functional data were assessed as predictors of edema. The prognostic value of each variable was initially estimated by univariate binary logistic regression, thereafter variables that showed an association were included in a multivariate model. Finally, a linear regression analysis was used to analyze the effect of elapsed days from hospitalization to CMR on the number of myocardial segments with edema.
**Results:** Diabetes, ST-segment elevation or left bundle branch block and days since hospitalization to CMR were associated with presence of myocardial edema on CMR in the univariate analysis. In the multivariate analysis, diabetes was identified as an independent negative predictor of edema (OR 0.11; CI 0.02–0.87; p=0.037) (see Table). In spite of a similar initial number of edematous segments, diabetic patients had a faster edema recovery compared with non-diabetic patients (see Figure).

Predictors of myocardial edema

| | Myocardial Edema | | | Multivariate logistic regression | |
|---|---|---|---|---|---|
| | Presence (n=23) | Absence (n=9) | p | Odds Ratio (95% CI) | p |
| Age, years | 74.9±2.3 | 77.8±2.2 | 0.47 | | |
| Female | 21 (91%) | 7 (78%) | 0.31 | | |
| Hypertension | 14 (61%) | 7 (78%) | 0.37 | | |
| Diabetes mellitus | 4 (17%) | 5 (56%) | 0.04 | 0.11 (0.02 to 0.87) | 0.04 |
| Killip class >1 at admission | 4 (17%) | 3 (34%) | 0.33 | | |
| Normal ECG at admission | 2 (9%) | 2 (22%) | 0.31 | | |
| ST-elevation or LBBB at admission | 14 (61%) | 2 (22%) | 0.06 | 3.14 (0.41 to 24.13) | 0.27 |
| Diffuse negative T waves at admission | 7 (30%) | 5 (56%) | 0.20 | | |
| Echo-LVEF at admission, % | 37.7±1.9 | 35.4±4.2 | 0.57 | | |
| Delay to CMR, days | 4.5±0.8 | 7.4±1.1 | 0.07 | 0.79 (0.61 to 1.02) | 0.07 |
| Peak of hs-TnT, ng/L | 527±130 | 464±114 | 0.76 | | |

hs-TnT, high sensitive Troponin T; LBBB, Left bundle branch block.




Linear regression analysis

**Conclusions:** Diabetes might have a beneficial effect on myocardial edema in TT patients. In diabetic patients a delay in the timing of CMR reduces our ability to detect myocardial edema.

## BEST POSTERS IN CORONARY INTERVENTIONS

### P4396
### Outcomes of patients with bifurcation lesions undergoing provisional 1-stent treatment - analysis from the BIONICS trial

M. Konigstein[1], D. E Kandzari[2], P. C Smits[3], M. P Love[4], R. Wolny[1], S. Chen[1], L. Mengdan[1], G. Perlman[5], O. Ben-Yehuda[1], G. W Stone[1]. *[1]Cardiovascular Research Foundation, New York, United States of America; [2]Piedmont Heart Institute, Atlanta, United States of America; [3]Maasstad Hospital, Rotterdam, Netherlands; [4]QE II Health Sciences Center, Halifax, Canada; [5]Hadassah University Medical Center, Jerusalem, Israel*

**Introduction:** Bifurcation lesions are technically challenging to treat and have