

to AMI (min 14.28±6.72 vs 11.93±5.14,  $p=0.01$ ; mean 18.09±6.66 vs 15.48±4.18,  $p=0.03$ ; max 21.72±6.77 vs 17.94±4.49,  $p=0.00003$ ). At the analysis of variance (ANOVA) there was a significant association between higher temperature and occurrence of TTC (min. temp.  $F=6.54$ ,  $p=0.01$ , mean temp.  $F=9.32$ ,  $p=0.003$ , max temp.  $F=18.3$ ,  $p=0.001$ ). At ROC Curve a Temperature  $> 21^\circ$  Celsius better predicted the occurrence of TTC (AUC 0.66,  $p=0.003$  (sensitivity 51.76%, specificity 80%).

**Conclusions.** Our study demonstrates that compared with AMI, TTC occurs more frequently at warmer temperature.

O05

### TROPONIN I/EJECTION FRACTION RATIO: A NEW INDEX TO DIFFERENTIATE TAKOTSUBO CARDIOMYOPATHY FROM MYOCARDIAL INFARCTION

G. NOVO<sup>1</sup>, S. GIAMBANCO<sup>1</sup>, M.R. SUTERA<sup>1</sup>, V. BONOMO<sup>1</sup>, F. GIAMBANCO<sup>2</sup>, A. ROTOLO<sup>1</sup>, S. EVOLA<sup>1</sup>, P. ASSENNATO<sup>1</sup>, S. NOVO<sup>1</sup>

<sup>1</sup> CHAIR AND DIVISION OF CARDIOLOGY, UNIVERSITY OF PALERMO, PALERMO, ITALY, <sup>2</sup> DIVISION OF CARDIOLOGY, INGRASSIA HOSPITAL, PALERMO, ITALY

**Background.** Takotsubo cardiomyopathy (TC) is a frequently stress-induced cardiac disorder, whose symptoms resemble those of acute myocardial infarction (AMI).

Aim of our study was to investigate whether a noninvasive tool, the ratio peak troponin I and ejection fraction, could be useful to distinguish TC from AMI.

**Methods.** We enrolled 53 cases of TC and as a control group 53 AMI patients, both STEMI and NSTEMI, matched for ejection fraction (EF), admitted to our institution between 2007 and 2014. For each patient cardiovascular risk factors were recorded, a cardiologic evaluation including electrocardiogram and transthoracic echocardiogram was performed and serial troponin I levels were measured. Moreover, the ratio between peak troponin I and left ventricular ejection fraction (LVEF) at admission was calculated (TEFR).

**Results.** The peak troponin I level was significantly lower in patients with TC than in the AMI group (6.52 ± 7.25 vs. 91.11 ± 117.91 ng/dl,  $p < 0.001$ ). The TEFR was 16.31 ± 19.58 in TC and 230.83 ± 323.74 in AMI patients ( $p < 0.001$ ). A TEFR value  $< 60$ , derived from the receiver operating characteristic (ROC) curve analysis, was the cut-off value with the best sensitivity (96.23%) and specificity (84.91%) to differentiate TC from AMI.

**Conclusions.** The TEFR could be useful in differentiating TC from AMI at an early stage.

O06

### TROPONIN LEVELS AFTER ELECTIVE PERCUTANEOUS CORONARY INTERVENTION ARE NOT INDEPENDENT PREDICTORS OF DEATH OR MAJOR CARDIOVASCULAR EVENTS

M. DI PIAZZA<sup>1</sup>, V. BONOMO<sup>1</sup>, S. EVOLA<sup>1</sup>, A. QUAGLIANA<sup>1</sup>, S. NOVO<sup>1</sup>

<sup>1</sup> CHAIR AND DIVISION OF CARDIOLOGY, UNIVERSITY OF PALERMO, PALERMO, ITALY

**Materials and methods.** 980 patients, undergoing elective coronary angiography are enrolled. Patients follow-up is obtained through scheduled telephone contacts, aimed to assess the health state and the incidence of MACE using standard questions. Enrolled patients were 354.

**Results.** 93 patients of the 354 patients included in the study (32%) had an increase of troponin  $> 0.12$  ng/ml (99th percentile of the reference population) after PCI, 53 patients (18.5%) had an increase in troponin  $> 0.36$  ng/ml. At follow-up of 48±25.9 months (range 84 to 12) the incidence of a first event is not significantly reduced with the post-procedural troponin increase (34.4% vs. 31.8%), while the incidence of a second event is substantially unchanged (6.6%). Instead, the incidence of death is not significantly increased with the troponin post-PCI increase (4.3% vs 9.5%).

The patients were also divided into four classes assigning a score from 0 to 3 for each level of troponin  $< 0.12$ ,  $< 0.36$ ,  $< 0.6$ ,  $> 0.6$  ng/ml respectively.

The events incidence was higher in patients with the lowest troponin class (67.5% vs 30% for the first event  $p=0.7$ , 5.9 vs 2.5% for the second event  $p=0.6$ , 8.5% vs 2.5% for death,  $p=0.3$ ).

**Conclusions.** Troponin is a diagnostic key factor for cardiovascular diseases due to its specificity and high sensitivity for myocardial tissue. Thus, the increase of troponin after procedure is not synony-

mous of a worst prognosis, but, in all cases, the peri-procedural damage must avoid.

### Topic: Ageing and vascular diseases

O07

### EARLY VASCULAR AGING IN NORMOTENSIVE SUBJECTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS. COMPARISON WITH YOUNG HYPERTENSIVE PATIENTS

G. MULE<sup>1</sup>, M. MORREALE<sup>1</sup>, A. FERRANTE<sup>2</sup>, F. D'IGNOTO<sup>1</sup>, G. GERACI<sup>1</sup>, S. COTTONE<sup>1</sup>

<sup>1</sup> DIPARTIMENTO BIOMEDICO DI MEDICINA INTERNA E SPECIALISTICA, U.O. DI NEFROLOGIA E IPERTENSIONE-ESH CENTRE OF EXCELLENCE, POLICLINICO DI PALERMO, ITALY, <sup>2</sup> DIPARTIMENTO BIOMEDICO DI MEDICINA INTERNA E SPECIALISTICA, U.O. DI REUMATOLOGIA, POLICLINICO DI PALERMO, ITALY

Aortic pulse wave velocity (aPWV) is one of the most important markers of vascular aging.

It is well known that connective tissue diseases are associated with accelerated atherosclerosis, but only a few data are available about aPWV in patients with systemic lupus erythematosus (SLE).

The aim of this study was to evaluate early vascular aging, assessed by measuring aPWV, in a group of normotensive patients with SLE and to compare these subjects with a group of young essential hypertensive (EH) individuals.

**Design.** Cross-sectional study.

**Methods.** We have enrolled 39 normotensive SLE subjects (mean age: 39 ± 11 years) matched for sex and age with a group of essential hypertensive patients (mean age 39.4 ± 8 years). Each patient has been undergone to ambulatory blood pressure measurement (ABPM) and to aPWV measurement through an oscillometric device (Arteriograph).

**Results.** Clinic and 24-hours blood pressure values were significantly lower in the SLE patients when compared to those of the hypertensive subjects (all  $p < 0.005$ ). Despite this difference, aPWV was similar in the two groups, being 9.1 ± 2.8 m/sec in SLE subjects and 9.1 ± 2 m/sec in the group of young essential hypertensive patients ( $p = 0.99$ ). In both groups aPWV was greater than that of the normal population in the same age category (6.5 m/s).

**Conclusions.** Our results seem to suggest that SLE has the same deleterious impact on vascular aging as well as high blood pressure. It is very likely that this Unfavourable effect of SLE is mediated by chronic inflammation.

O08

### CORRELATIONS BETWEEN NON INVASIVE RENAL INDEX AND MARKERS OF ATHEROSCLEROSIS IN LUPUS PATIENTS

M. MORREALE<sup>1</sup>, A. FERRANTE<sup>2</sup>, F. D'IGNOTO<sup>1</sup>, G. GERACI<sup>1</sup>, G. MULE<sup>1</sup>, S. COTTONE<sup>1</sup>

<sup>1</sup> DIPARTIMENTO BIOMEDICO DI MEDICINA INTERNA E SPECIALISTICA, U.O. DI NEFROLOGIA E IPERTENSIONEESH CENTRE OF EXCELLENCE, POLICLINICO PALERMO, ITALY, <sup>2</sup> DIPARTIMENTO BIOMEDICO DI MEDICINA INTERNA E SPECIALISTICA, U.O. DI REUMATOLOGIA, POLICLINICO DI PALERMO, PALERMO, ITALY

Recent data suggest that renal hemodynamic parameters obtained by duplex Doppler sonography, especially the intrarenal resistive index (RI), may be associated with systemic vascular changes in some groups of patients. However, conflicting data exist about the relationship between aortic stiffness and RI in autoimmune disease, like systemic lupus erythematosus, characterized by high and early incidence of atherosclerotic disease. The aim of this study was to evaluate the relationship between RI and arterial stiffness, assessed by aortic pulse wave velocity (aPWV), and carotid atherosclerosis, evaluated by intimal medial thickness measurement (IMT) in patients with SLE.

**Design.** Cross-sectional study.

**Methods.** We enrolled 39 SLE subjects (mean age: 39 years), 35 women and 4 men. Each patient has been undergone to assessment of ultrasonographic renal RI, IP, and measurement of aPWV through oscillometric device, and ultrasound evaluation of carotid IMT.

**Results.** IR correlated significantly with aortic PWV ( $r: 0, 44$ ;  $p=0,006$ ), and with carotid IMT ( $r: 0, 37$ ;  $p=0,02$ ) in the study population. The first correlation has remained significant after correction for age and mean arterial pressure. 12 patients have shown aPWV value more than 10 m/sec that identifies who has more cardiovascular risk. In adding to this, in this group of patients IR levels were higher than in the patients with aPWV less than 10 m/sec.

**Conclusion.** Our results seems to suggest that, as previously demonstrated in other populations, the RI may be considered as a marker