paroxysmal AF with/without LVA (PAF−/PAF+), persistent AF with/without LVA (PersAF±). The aim of the current analysis was to investigate NT-proANP and VCAM1 levels in peripheral and cardiac circulation and to analyze potential association with LAA strain.

Method The study included 116 patients undergoing first AF catheter ablation. Left atrial appendage (LAA) was analyzed before ablation with mid-esophageal echocardiographic in 2D-speckle tracking imaging. LAA total longitudinal strain (LAA-TLS) was assessed as the absolute difference of the maximal systo-diastolic values in extracted strain-curves. Blood plasma samples from femoral vein and LA were collected before catheter ablation. NT-proANP and VCAM1 were analyzed using commercially available assays.

Results There were significant differences between the groups with LAA-TLS ($P < 0.001$), cardiac NT-proANP ($P = 0.009$), and VCAM1 ($P = 0.048$). On univariable analysis, age, gender, PersAF, LAA-TLS, renal function, and cardiac NT-proANP and VCAM1 significantly predicted LVA. However, on multivariable analysis, age (OR 1.097, 95%CI 1.009—1.192, $P = 0.029$), PersAF (OR 4.713, 95%CI 1.131—19.649, $P = 0.033$), LAA-TLS (OR 0.945, 95%CI 0.898—0.995, $P = 0.032$) and VCAM1 (OR 1.002, 95%CI 1.000—1.004, $P = 0.034$) remained significant predictors for LVA.

Conclusion Beside age and AF type, LAA-TLS and VCAM1 were significant predictors for LVA. Larger studies analyzing non-invasive predictors for electro-anatomical remodeling in AF patients are needed to prove our results.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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Poster n°36

Analysis of NT-proBNP Baseline Levels in APOLLO as a Predictor of Survival in Hereditary Transthyretin-mediated (hATTR) Amyloidosis

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Introduction Hereditary transthretin amyloidosisis (hATTR) is a multisystemic, fatal disease resulting TTR amyloid deposition. Clinical manifestations include neuropathy as well as cardiomyopathy, a major cause of death. NT-proBNP, cardiac biomarker, has shown prognostic value in cardiac diseases clinically validated. For hATTR and wild-type ATTR, survival in patients with NT-proBNP levels > 3000 ng/L was linked with poorer survival.

Method APOLLO, phase 3, randomized (2:1), double-blind study of patisiran 0.3 mg/kg or placebo IV q3 W in patients with hATTR with polyneuropathy. Fifty-six% of patients had cardiac involvement defined by prespecified criteria: left ventricular (LV) wall thickness ≥ 13 mm and absence of aortic valve disease or hypertension. $n = 225$: mean age 61 years, 57% non-V30 M mutation, NT-proBNP median 756.4 ng/L. To assess the prognostic significance of baseline factors on survival, a Cox regression analyses were conducted. NT-proBNP was evaluated as a continuous variable following logarithmic transformation as well as a binary variable using a cut off value of 3000 ng/mL.

Results Median survival follow-up duration was 18.7 months. 13 deaths not related to the treatment, 6 (8%) PB0 arm and 7 (5%) in patisiran arm. NT-proBNP was the key significant factor predictive of survival based on univariate and multivariate analyses. The risk of death increased with higher baseline NT-proBNP (hazard ratio = 2.9) [95% CI: 1.8, 4.8, P-value = $8.7 \times 10-7$] per unit increment in log(NT—proBNP). Patients with NT-proBNP > 3000 ng/L ($n = 29$) had a 19.3-fold [95% CI 5.9, 62.8, p-value = $8.7 \times 10-7$] increased risk for mortality compared with those below 3000 ng/L ($n = 196$).

Conclusion Based on the data from APOLLO, baseline NT-proBNP serum levels in hATTR patients are predictive of survival. These data underscore the importance of diagnosing and treating patients early in the course of the disease.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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Poster n°45

Right ventricular dysfunction in heart failure with preserved ejection fraction

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Introduction The underlying pathophysiology of right ventricular (RV) dysfunction in heart failure with preserved ejection fraction (HFpEF) is still debated. The aim of this study is to assess the prognostic significance of echocardiographic right ventricular abnormalities in HFpEF.

Method We enrolled 150 patients with HFpFE in sinus rhythm and no history of chronic lung disease in this observational study. Over a median follow-up of 18 months, 58 patients (38.6%) reached the end point study of hospitalization for heart failure or death (group 1) and 92 remained asymptomatic (group 2).

Results While mean ages, sex ratio, BMI, creatinine level, left ventricular (LV) ejection fraction, LV and RV dimensions were similar between the 2 groups, group 1 patients compared to group 2, had higher ratio of early mitral diastolic inflow velocity E to early diastolic mitral annular velocity e' (E/e' ratio: 17 ± 6 vs 13 ± 7; $P < 0.01$), higher pulmonary artery (PA) pressures (45 ± 11 vs. 36 ± 12 mmHg; $P < 0.01$) with higher right heart filling pressures. Furthermore, group 1 patients had reduced RV function evidenced by reduced tricuspid annulus systolic velocities obtained at the basal RV free wall (8.9 ± 2.1 vs. 10.9 ± 1.9 cm/s; $P < 0.01$), reduced tricuspid annular plane systolic excursion (TAPSE: 14.9 ± 2.4 vs. 17.8 ± 2.7 mm; $P < 0.01$) and reduced RV fractional area change (FAC: 41 ± 6 vs. 48 ± 7%; $P < 0.01$).

Conclusion In HFpEF patients, right ventricular dysfunction progresses with increasing afterload PA pressures, and is associated with worse outcome.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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Poster n°46

Impaired systolic function in heart failure with preserved ejection fraction: A specific phenotype?

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Introduction Background: Impairment in left ventricular (LV) systolic function has been described in heart failure (HF) with preserved ejection fraction (HFpEF), but the prognostic of HFpEF according to de degree of LV-systolic dysfunction has been weakly

evaluated. We sought to describe according to LV-longitudinal strain (LS), both the phenotype with and without LV-systolic dysfunction and to assess its prognostic value in the multicentric prospective cohort KaRen.

Method LS was assessed by 2-dimensional speckle-tracking echocardiography at baseline in 348 patients with HFpEF enrolled in KaRen (prospective international multicenter registry on HFpEF). At a median follow-up of 1.5 years (interquartile range, 0.8—2.7 years), 43% of the patients experienced the primary composite outcome of cardiovascular death, HF hospitalization. Impaired LS, defined as an absolute LS < 16%, was present in 40.5% of patients but was not a predictor of the composite outcome. The phenotype with impaired LS was characterized by some key feature detailed Figure 1.

Results Main echocardiographic results are in Figure 1.

Conclusion Impaired LV- systolic function is not systematic in HFpEF. The fact that LS is < 16% is not associated with an increased risk of death or HF-hospitalisation. (Figure 1).

&17	No, N = 141 % (n)	Yes, N = 207 % (n)	p-value*
Cardiac Index	2.72 ± 0.80	2.48 ± 0.68	0.0130
LV mass indexed, g/m²	124 ± 34	127 ± 37	0.4372
RV diameter, mm	30.7 ± 7.93	31.6 ± 5.76	0.2504
LV EF,%	65.6 ± 5.93	60.1 ± 6.69	<.0001
Stroke volume, mL/m²	31.7 ± 8.71	30.5 ± 8.46	0.2446
LV end diastolic diameter, mm	46.8 ± 6.23	47.6 ± 6.10	0.2482
LV end systolic diameter, mm	30.5 ± 5.97	33.2 ± 6.68	0.0003
LV fractional shortening, %	35.4 ± 6.96	30.7 ± 7.63	<.0001
e', cm/s	7.96 ± 2.50	7.90 ± 2.66	0.8469
Tricuspid regurgitation, m/s	2.87 ± 0.71	2.87 ± 0.59	0.9926
LA volume indexed, mL/m²	48.1 ± 18.6	50.6 ± 17.5	0.2593
E-wave deceleration time, ms	207 ± 84	185 ± 68	0.0072
E/A ratio	1.53 ± 1.09	2.08 ± 1.44	0.0006
E/e'	12.39 ± 5.04	13.25 ± 6.56	0.2016
TAPSE, mm	18.8 ± 4.38	16.0 ± 4.58	<.0001
RV shortening	0.44 ± 0.09	0.43 ± 0.09	0.2087

Figure 1 Results according to GLS.

Disclosure of interest The authors declare that they have no competing interest.

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Poster n°49

The effect of systemic hypertension on right ventricular function: An echocardiographic study

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Introduction Left ventricular structural and functional changes in patients with arterial hypertension are well established. However, the influence of arterial hypertension on right ventricular (rV) remodeling is still being investigated. The aim of the current study was to determinate the rV systolic and diastolic function in uncontrolled hypertensive patients and compare these echocardiographic findings to the results of control subjects.

Method We included 40 patients with uncontrolled hypertension without any associated pathology (group A) and 40 healthy subjects control (group B). Subjects included in both groups were free from diabetes, valvular disease and ischemic heart disease. The 2 groups have a comparable average age and sex-ratio.

Results There was a significant increase in parietal thickness, left atrium diameter, left ventricular mass index in group A. The left ejection fraction was comparable between two groups. The diastolic diameter of the RV, the ejection fraction of the RV, the tricuspid annular plane systolic excursion (TAPSE) and the fractional area change were comparable between the 2 groups. The systolic velocity S' measured at the level of the annulus tricuspid and the global longitudinal strain rate were significantly lower in hypertensive patients(7 ±2 cm versus 13 ± 2 cm/s, $P < 0.01$) and (− 13. ± 2.6% versus − 19.1 ± 2% $P < 0.01$) reflecting subclinical RD systolic dysfunction. In addition, the early (Ea) peak velocity at the tricuspid annulus was significantly lower in group A (6.8 ± 1.9 cm/s versus 12.1 ± 4.1), $P < 0.01$ with a consequence lower Ea/Aa suggestion a RV relaxation disorder.

Conclusion Our study revealed a RV dysfunction in uncontrolled hypertension patients, Doppler tissue and 2D strain were very powerful in detection of RV abnormalities at an early subclinical stage.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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Poster n°50

Prognostic value of longitudinal strain compared to conventional parameters of right ventricular function in heart failure with reduced ejection fraction

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Introduction Right ventricular (RV) systolic dysfunction is an important predictor of poor outcomes in heart failure (HF) with reduced ejection fraction (EF), usually evaluated by conventional parameters. RV longitudinal strain (RVLS) is recently proposed to be more sensitive tool to evaluate RV function. The purpose of this study was to compare the prognostic value of strain and conventional parameters of RV function in HF with reduced EF.

Method Echocardiography was performed in all patients discharged after decompensated HF with EF < 40% between January and June 2017. We measured TAPSE, S velocity, fractional area change(FAC). RVLS was assessed by averaging all segments in apical view. RV dysfunction was defined if at least one of the following parameters was impaired:TAPSE < 17 mm, FAC < 35%, Sve-locity < 9.5 cm/s or Strain of free wall RV < 20%. Our patients have been followed for 1year. The end point was all major cardiac events (mortality, readmission).

Results During a mean follow-up of 283 ± 67 days, major cardiac events rate were 28.7% after 3 months and 38.3% in 1year. RV dysfunction was associated with major cardiac events both in 3 months ($P = 0.01$) and in 1 year ($P = 0.04$). In patients with RV dysfunction, the survival rate decreased by 38,4% in 1year and by 60% when all parameters were impaired. The overall performance for the prediction of cardiac events was greatest for RVLS (area under the curve: 0.76; TAPSE: 0,68; FAC: 0.67). The cut-off value of RVLS was − 11,5% to predict cardiac events in 3 months (se = 65%, sP = 80) and in 1 year (se = 68%, sP = 75). In multivariate analyses, RVLS remained an independent predictor of major cardiac events in 3months (OR = 21,6; 95%CI:1,5-309; $P = 0.02$) and in 1 year (OR = 8,4; 95%CI: 1,3—52; $P = 0,02$).