

CORRECTION

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Phenotypic Clustering of Left Ventricular Diastolic Function Parameters: Patterns and Prognostic Relevance



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The previous published online version of this article (posted on April 18, 2018) had errors in some of the p values reported in Tables 1, 2, 4, and 5. The online version of the article has been revised with the correct p values. There were no changes in the other tables or any other content of the article. The corrected tables are below:

	All Patients (N = 559)	No DD (n = 359)	Indeterminate (n = 120)	DD (n = 80)	p Value
Age, yrs	59.4 ± 15.0	54.8 ± 14.4	65.0 ± 12.1	71.9 ± 12.1	<0.001*††
Female	344 (62)	218 (61)	76 (63)	51 (64)	0.789
BMI	27.7 ± 5.88	27.4 ± 5.80	28.5 ± 6.20	27.8 ± 5.65	0.255
Hemoglobin, g/dl	12.3 ± 1.93	12.4 ± 1.93	12.5 ± 1.67	11.6 ± 2.07	0.00606††
Creatinine, mg/dl	1.08 ± 0.95	1.04 ± 0.919	1.06 ± 0.458	1.31 ± 1.42	0.140
Hypertension	241 (43)	126 (35)	67 (56)	49 (61)	<0.001
Diabetes	105 (19)	48 (13)	32 (27)	26 (33)	<0.001
Hyperlipidemia	184 (33)	98 (27)	50 (42)	36 (45)	0.001
Current smoker	40 (7)	28 (8)	10 (8)	2 (3)	0.214
COPD	33 (6)	18 (5)	11 (9)	4 (5)	0.231
LVMi, g/m ²	78.1 ± 21.0	73.6 ± 18.8	80.3 ± 19.4	94.9 ± 23.7	<0.001*††
EF, %	62.5 ± 5.3	62 ± 5.2	63.4 ± 5.5	63.3 ± 5.8	0.02*
E, m/s	0.73 ± 0.2	70 ± 16	72 ± 19	87 ± 27	<0.001††
A, m/s	0.74 ± 0.23	159 ± 48	136 ± 40	118 ± 48	<0.001*††
E/A	1.07 ± 0.44	1.11 ± 0.42	0.95 ± 0.34	1.01 ± 0.58	0.001*
e' septal, cm/s	6.94 ± 3.2	7.8 ± 2.6	5.4 ± 4.4	4.6 ± 6.9	<0.001*††
E/e'	11.80 ± 5.3	9.5 ± 2.6	13.8 ± 4.4	19.4 ± 6.9	<0.001*††
TR velocity, m/s	2.3 ± 0.84	2.18 ± 0.34	2.36 ± 0.48	2.69 ± 0.6	<0.001*††
LAVi, mL/m ²	32.2 ± 11.0	28.4 ± 8.7	35.1 ± 9.8	45.2 ± 11.3	<0.001*††

Values are mean ± SD or n (%). *p < 0.05 between No DD and Indeterminate. †p < 0.05 between No DD and DD. †p < 0.05 between Indeterminate and DD.
 A = late diastolic atrial contraction mitral wave velocity; BMI = body mass index; COPD = chronic obstructive pulmonary disease; DD = diastolic dysfunction; E = early diastolic mitral wave velocity; e' = tissue Doppler-derived early diastolic mitral annular velocity; EF = ejection fraction; LAVi = left atrial volume index; LVMi = left ventricular mass index; TR = tricuspid regurgitation.

TABLE 2 Comparison of Characteristics Between Cluster-Based Groupings for Assessing the Presence or Absence of DD

	All Patients (N = 559)	Cluster 1 (n = 460)	Cluster 2 (n = 99)	p Value
Age, yrs	59.4 ± 15.0	58.4 ± 14.6	64.3 ± 16.0	<0.001
Female	344 (62)	287 (62)	57 (58)	0.372
BMI	27.7 ± 5.88	27.6 ± 5.87	27.1 ± 5.91	0.629
Hemoglobin, g/dl	12.3 ± 1.93	12.5 ± 1.84	11.8 ± 2.19	0.006
Creatinine, mg/dl	1.08 ± 0.95	1.05 ± 0.899	1.25 ± 1.11	0.1
Hypertension	241 (43)	185 (40)	56 (57)	0.003
Diabetes	105 (19)	82 (18)	23 (23)	0.212
Hyperlipidemia	184 (33)	152 (33)	32 (32)	0.890
Current smoker	40 (7)	34 (7)	6 (6)	0.641
COPD	33 (6)	29 (6)	4 (4)	0.386
LVMi, g/m ²	78.1 ± 21.0	74.8 ± 19.7	92.9 ± 20.5	<0.001
EF, %	62.5 ± 5.3	62.0 ± 5.4	63 ± 5.1	0.221
E, m/s	0.73 ± 0.2	70.4 ± 16.8	85 ± 26	<0.001
A, m/s	0.74 ± 0.23	149.0 ± 47.0	144 ± 57	0.357
E/A	1.07 ± 0.44	1.04 ± 0.39	1.2 ± 0.58	0.002
e' septal, cm/s	6.94 ± 3.2	7.0 ± 2.4	6.4 ± 2.3	0.028
E/e'	11.80 ± 5.3	11.1 ± 4.6	14.9 ± 7.0	<0.001
TR velocity, m/s	2.3 ± 0.84	2.24 ± 0.41	2.53 ± 0.55	<0.001
LAVi, ml/m ²	32.2 ± 11.01	28.4 ± 7.0	50.0 ± 8.8	<0.001

Values are mean ± SD or n (%).
Abbreviations as in Table 1.

TABLE 4 Comparison of Characteristics Between Conventional Diagnostic Categories for Grading Severity of DD

	All (N = 387)	Grade I DD (n = 114)	Grade II DD (n = 236)	Grade III DD (n = 37)	p Value
Age, yrs	75.1 ± 14.4	68.5 ± 16.0	77.8 ± 12.5	78.5 ± 13.8	<0.001
Female	186 (48)	40 (35)	133 (56)	13 (35)	<0.001*††
BMI	27.4 ± 5.42	27.4 ± 5.32	27.5 ± 5.65	26.3 ± 3.86	0.487
Hemoglobin, g/dl	11.2 ± 2.01	11.5 ± 2.26	11.0 ± 1.94	11.6 ± 1.94	0.0808*
Creatinine, mg/dl	1.32 ± 1.01	1.18 ± 0.942	1.34 ± 1.02	1.53 ± 1.11	0.1943
Diabetes	99 (26)	22 (19)	66 (28)	11 (30)	0.182
Hypertension	249 (64)	63 (55)	163 (69)	23 (62)	0.039
Hyperlipidemia	210 (54)	57 (50)	133 (56)	20 (54)	0.535
Current smoker	21 (5)	9 (8)	10 (4)	2 (5)	0.367
COPD	32 (8)	10 (9)	16 (7)	6 (16)	0.149‡
rEF	55 (14)	32 (28)	16 (7)	7 (19)	<0.001*††
L VH/CR	252 (65)	80 (70)	147 (62)	25 (68)	0.331
LVMi, g/m ²	112.0 ± 86.7	117.0 ± 153.0	108.0 ± 32.0	120.0 ± 33.2	0.581
EF, %	58.3 ± 12.7	55.5 ± 60.5	60.5 ± 11.2	52.7 ± 14.0	<0.001*†
E, m/s	0.905 ± 0.280	0.723 ± 0.217	0.960 ± 0.262	1.12 ± 0.265	<0.001*††
A, m/s	0.962 ± 0.358	0.872 ± 0.312	1.09 ± 0.312	0.436 ± 0.131	<0.001*††
E/A	1.09 ± 0.672	0.895 ± 0.325	0.934 ± 0.315	2.73 ± 0.896	<0.001*††
e' septal, cm/s	4.92 ± 1.71	5.95 ± 2.13	4.39 ± 1.16	5.12 ± 1.69	<0.001*††
E/e'	20.6 ± 9.85	13.8 ± 7.31	23.3 ± 9.07	24.7 ± 10.9	<0.001*†
TR velocity, m/s	2.60 ± 0.536	2.32 ± 0.347	2.68 ± 0.524	2.97 ± 0.680	<0.001*††
LAVi, ml/m ²	44.5 ± 15.1	33.2 ± 10.7	48.2 ± 13.1	55.7 ± 18.3	<0.001*††

Values are mean ± SD or n (%). *p < 0.05 between grades I and II. †p < 0.05 between grades I and III. ‡p < 0.05 between grades II and III.
LVH/CR = left ventricular hypertrophy or concentric remodeling; rEF = reduced ejection fraction; other abbreviations as in Table 1.

TABLE 5 Comparison of Characteristics Between Cluster-Based Groupings for Grading Severity of DD

	All (N = 387)	Cluster 1 (n = 236)	Cluster 2 (n = 151)	p Value
Age, yrs	75.1 ± 14.4	73.3 ± 14.6	78.0 ± 13.6	0.002
Female	186 (48)	105 (44)	81 (54)	0.08
BMI	27.4 ± 5.42	27.4 ± 5.41	27.3 ± 5.44	0.944
Hemoglobin, g/dl	11.2 ± 2.06	11.4 ± 2.08	11.0 ± 2.00	0.06
Creatinine, mg/dl	1.32 ± 1.01	1.17 ± 0.671	1.52 ± 1.33	<0.001
Diabetes	99 (26)	56 (24)	43 (28)	0.296
Hypertension	249 (64)	144 (61)	105 (70)	0.09
Hyperlipidemia	210 (54)	127 (54)	83 (55)	0.824
Current smoker	21 (5)	12 (5)	9 (6)	0.711
COPD	32 (8)	18 (8)	14 (9)	0.567
rEF	55 (14)	40 (17)	15 (10)	0.054
LVH/CR	252 (65)	146 (62)	106 (70)	0.093
LVMi, g/m ²	112.0 ± 86.7	109.0 ± 110.0	116.0 ± 29.0	0.432
EF, %	58.3 ± 12.7	58.2 ± 12.8	58.5 ± 12.5	0.820
E, m/s	0.905 ± 0.280	0.828 ± 0.235	1.03 ± 0.301	<0.001
A, m/s	0.962 ± 0.358	0.940 ± 0.319	0.996 ± 0.409	0.132
E/A	1.09 ± 0.672	0.983 ± 0.488	1.27 ± 0.857	<0.001
e' septal, cm/s	4.92 ± 1.71	5.18 ± 1.78	4.51 ± 1.49	<0.001
E/e'	20.6 ± 9.85	18.0 ± 8.48	24.9 ± 10.4	<0.001
TR velocity, m/s	2.60 ± 0.536	2.50 ± 0.483	2.76 ± 0.576	<0.001
LAVi, ml/m ²	44.5 ± 15.1	35.2 ± 6.88	59.1 ± 12.7	<0.001

Values are mean ± SD or n (%).
 Abbreviations as in [Tables 1 and 4](#).

The authors apologize for these errors.

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