

De Novo Versus Recurrent HER2-Positive Metastatic Breast Cancer: Patient Characteristics, Treatment, and Survival From the SystHERs Registry
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Table S1. Baseline cardiovascular disease history and risk factors

Characteristic	All eligible (n=977)	De novo (n=487)	Recurrent (n=490)
History of cardiovascular disease, n (%)	133 (13.6)	59 (12.1)	74 (15.1)
Chronic atrial fibrillation	23 (2.4)	7 (1.4)	16 (3.3)
Congestive heart failure	17 (1.7)	8 (1.6)	9 (1.8)
Myocardial infarction	18 (1.8)	13 (2.7)	5 (1.0)
Peripheral vascular disease	3 (0.3)	1 (0.2)	2 (0.4)
Stroke	15 (1.5)	9 (1.8)	6 (1.2)
Cardiovascular risk factors, n (%)	515 (52.7)	250 (51.3)	265 (54.1)
Diabetes mellitus	113 (11.6)	54 (11.1)	59 (12.0)
First degree relative with early cardiac death (age <65 years)	22 (2.3)	11 (2.3)	11 (2.2)
Hypercholesterolemia	182 (18.6)	82 (16.8)	100 (20.4)
Hypertension	395 (40.4)	191 (39.2)	204 (41.6)
Obesity	166 (17.0)	84 (17.2)	82 (16.7)



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Table S2. Systemic treatments^a for EBC in patients with recurrent MBC (*n*=430 patients with systemic treatment data for EBC)

Treatment	Neoadjuvant or adjuvant	Neoadjuvant	Adjuvant
Any systemic therapy, n (%)	430 (100)	203 (47.2)	391 (90.9)
Any chemotherapy	390 (90.7)	193 (44.9)	229 (53.3)
Any taxane ^b	355 (82.6)	172 (40.0)	197 (45.8)
Any alkylating agent	229 (53.3)	92 (21.4)	140 (32.6)
Any anthracycline	205 (47.7)	81 (18.8)	125 (29.1)
Any platinum compound	145 (33.7)	83 (19.3)	65 (15.1)
Any hormonal therapy	272 (63.3)	29 (6.7)	261 (60.7)
Any aromatase inhibitor	183 (42.6)	14 (3.3)	180 (41.9)
Any tamoxifen	153 (35.6)	15 (3.5)	143 (33.3)
Any HER2-targeted therapy	283 (65.8)	147 (34.2)	237 (55.1)
Any trastuzumab	283 (65.8)	147 (34.2)	236 (54.9)
Any pertuzumab + trastuzumab	27 (6.3)	22 (5.1)	8 (1.9)
Any lapatinib	4 (0.9)	2 (0.5)	2 (0.5)
Trastuzumab + any chemotherapy	278 (64.7)	145 (33.7)	141 (32.8)
Trastuzumab + any taxane ^b	269 (62.6)	141 (32.8)	128 (29.8)
Trastuzumab + any alkylating agent	131 (30.5)	54 (12.6)	67 (15.6)
Trastuzumab + any platinum compound	141 (32.8)	80 (18.6)	62 (14.4)
Trastuzumab + any anthracycline	116 (27.0)	51 (11.9)	58 (13.5)
Trastuzumab + any hormonal therapy	163 (37.9)	13 (3.0)	137 (31.9)
Trastuzumab + any aromatase inhibitor	109 (25.3)	5 (1.2)	95 (22.1)
Trastuzumab + any tamoxifen	89 (20.7)	8 (1.9)	74 (17.2)
HER2-targeted therapy + chemotherapy + hormonal therapy	158 (36.7)	13 (3.0)	84 (19.5)

Abbreviations: EBC, early breast cancer; HER2, human epidermal growth factor receptor 2; MBC, metastatic breast cancer.

^aTreatments are not mutually exclusive.

b"Any taxane" includes a small number of patients who received an epothilone.



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Table S3. Patient-reported outcomes in patients with de novo and recurrent HER2-positive MBC

Measure ^a	Overall completion			Brief description	
	rate	De novo	Recurrent		
FACT-B ¹	79.4% (n=776)	n=392 104.4 (87–118)	n=384 100.4 (83–116)	 Quality of life assessment based on a sum of five subscales measuring physical, social, emotional, functional, and breast cancer– related well-being Maximum score 148^b 	
FACT-B TOI ¹	79.6% (<i>n</i> =778)	<i>n</i> =393 63.0 (50–74)	n=385 60.0 (47–72)	 Quality of life assessment based on a sum of the FACT-B physical, functional, and breast subscales Maximum score 96^b 	
RSC-ALS ²	80.3% (<i>n</i> =785)	n=398 87.5 (67–100)	n=387 85.7 (63–100)	 Impairment of daily activities assessment measuring the impact of cancer on activities of daily living Maximum score 100^b 	
MDASI-BT cognitive symptoms ³	77.3% (<i>n</i> =755)	n=384 0.8 (0-3)	n=371 1.0 (0-3)	Cognitive dysfunction assessment measuring brain tumor-related symptom severity Maximum score 10 ^c	
MDASI-BT interference in daily life ³	77.1% (<i>n</i> =753)	n=381 2.0 (1–5)	n=372 2.3 (1–5)	Cognitive dysfunction assessment measuring brain tumor-related interference in daily life Maximum score 10 ^c	

^aQuestionnaires for FACT-B and RSC-ALS are available as supplemental files; questionnaires for MDASI-BT are available online⁴.

Abbreviations: FACT-B, Functional Assessment of Cancer Therapy-Breast; FACT-B TOI, FACT-B Trial Outcome Index; HER2, human epidermal growth factor receptor 2; IQR, interquartile range; MBC, metastatic breast cancer; MDASI-BT, MD Anderson Symptom Inventory—Brain Tumor Module; RSC-ALS, Rotterdam Symptom Checklist—Activity Level Scale.

References

- 1. Brady MJ, Cella DF, Mo F et al. Reliability and validity of the Functional Assessment of Cancer Therapy-Breast quality-of-life instrument. *J Clin Oncol* 1997;15:974–986.
- 2. de Haes JC, van Knippenberg FC, Neijt JP. Measuring psychological and physical distress in cancer patients: structure and application of the Rotterdam Symptom Checklist. *Br J Cancer* 1990;62:1034–1038.

^bHigher scores indicate better function.

^cHigher scores indicate greater impairment.



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- 4. M.D. Anderson Symptom Inventory–Brain Tumor Module (MDASI-BT). http://www3.mdanderson.org/depts/symptomresearch/pdf/MDASI-BrainTumor%20-%20SAMPLE.pdf. Last accessed September 11, 2019.



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Table S4. Progression-free and overall survival in patient subgroups based on (A) hormone receptor status, (B) receipt of first-line HER2-targeted therapy, and (C) receipt of first-line chemotherapy

(A)

	De novo		Recurrent	
	Hormone	Hormone receptor-	Hormone	Hormone
	receptor-	negative	receptor-	receptor-
	positive	n=170	positive	negative
	n=317		n=368	n=122
Median PFS, months	19.1	16.1	13.1	9.9
Median OS, months	NE	NE	47.7	31.6

(B)

	De novo		Recurrent	
	HER2-targeted	No HER2-targeted	HER2-targeted	No HER2-
	therapy	therapy	therapy	targeted therapy
	n=471	<i>n</i> =16	n=452	n=38
Median PFS, months	18.3	2.6	12.4	6.1
Median OS, months	NE	15.7	45.1	29.9

(C)

	De novo		Recurrent	
	Chemotherapy	No chemotherapy	Chemotherapy	No
	n=437	<i>n</i> =50	n=392	chemotherapy
				n=98
Median PFS, months	18.3	12.6	12.4	10.2
Median OS, months	NE	NE	44.5	51.5

Abbreviations: HER2, human epidermal growth factor receptor 2; NE, not estimable; OS, overall survival; PFS, progression-free survival.