



Supplementary Materials

Table S1. Demographic characteristics of male patients in the WTC EHC with and without breast cancers as of 31 December 2019.

Characteristic	Non-Cancer *	Male Breast Cancer	p-value
	2704	Patients 9	
Age on 9/11, median (interquartile range)	40.50 (32.60, 48.20)	51.60 (45.30, 54.10)	0.03
Age group on 9/11, n (%)	<20	0 (0)	0.03
	21–29	157 (6)	
	30–39	355 (13)	
	40–49	771 (29)	
	50–59	861 (32)	
	60–69	431 (16)	
	70–79	104 (4)	
	≥80	22 (1)	
Race/Ethnicity, n (%)	Hispanic	3 (0)	0.08
	Non-Hispanic white	811 (31)	
	Non-Hispanic black	1129 (43)	
	Non-Hispanic Asian	353 (13)	
	Native American	0 (0)	
BMI (Body Mass Index), n (%)	Normal weight (<25)	2 (25)	0.97
	Overweight (25–30)	991 (42)	
	Obese (≥30)	815 (34)	
Income, n (%)	≤\$30,000/year	2 (22)	0.09
	>\$30,000/year	1146 (44)	
Education, n (%)	High school or less	1 (11)	0.21
	More than high school	1699 (63)	
Smoking status, n (%)	Never (≤1 pack-year)	6 (67)	0.99
	Former and current smokers (>1 pack-year, stopped)	880 (33)	
Smoking pack-years, n (%)	≤5 pack-year	7 (78)	0.99
	>5 pack-year	629 (24)	

* Includes only those with signed consent, all % rounded. WTC EHC – World Trade Center Environmental Health Center.

Table S2. Breast cancer characteristics among male patients in the WTC EHC as of 31 December 2019.

Characteristic	Male Breast Cancer Diagnoses	
	n (%)	
Laterality, n (%)	n = 11 *	
	Left	6 (55)
	Right	5 (45)
Grade, n (%)	G1. Well-differentiated	3 (27)
	G2. Moderately differentiated	5 (45)
	G3. Poorly differentiated	3 (27)
Histology, n (%)	Ductal	8 (73)
	Ductal in situ	3 (27)
pT (Primary tumor), n (%)	T0 (in situ)	3 (27)
	T1 (<2.0 cm)	6 (55)
	T2 (2.0–4.9 cm)	2 (18)
	T3–T4 (≥5.0 cm)	0 (0)
pN-Regional lymph nodes, n (%)	N0. No regional lymph node metastasis	7 (64)
	N1. Regional lymph node metastasis	2 (18)
	Unknown	2 (18)
pM-Distant metastasis, n (%)	M0. No distant metastasis	9 (82)
	M1. Distant metastasis	0 (0)
	Unknown	2 (18)
Stage, AJCC ** (%)	0	3 (27)

I	5 (45)
II	2 (18)
III	1 (9)
IV	0 (0)

* Includes 2 additional second primary breast cancer diagnoses among 2 male patients with two primary breast cancer diagnoses. ** Because available SEER data did not report in situ breast cancer cases, Table 2 did not include 121 in situ breast cancer diagnoses in the WTC EHC for comparison purposes. WTC EHC—World Trade Center Environmental Health Center.

Table S3. Age-adjusted odds ratios (and 95% CIs) comparing female breast cancer cases vs. non-cancer controls using multiple logistic regression.

Race/ethnicity (Hispanic as reference group)	Odds Ratios	95% Confidence Interval
Non-Hispanic White	2.74	(2.05, 3.70)
Non-Hispanic Black	2.18	(1.60, 2.99)
Asian or Native American	3.43	(2.40, 4.90)
Income >\$30,000 /year vs. ≤\$30,000/year	1.74	(1.42, 2.13)
More than high school vs. High school or less	1.29	(1.04, 1.62)

Odds ratios are only calculated for significant characteristics in Table 1.