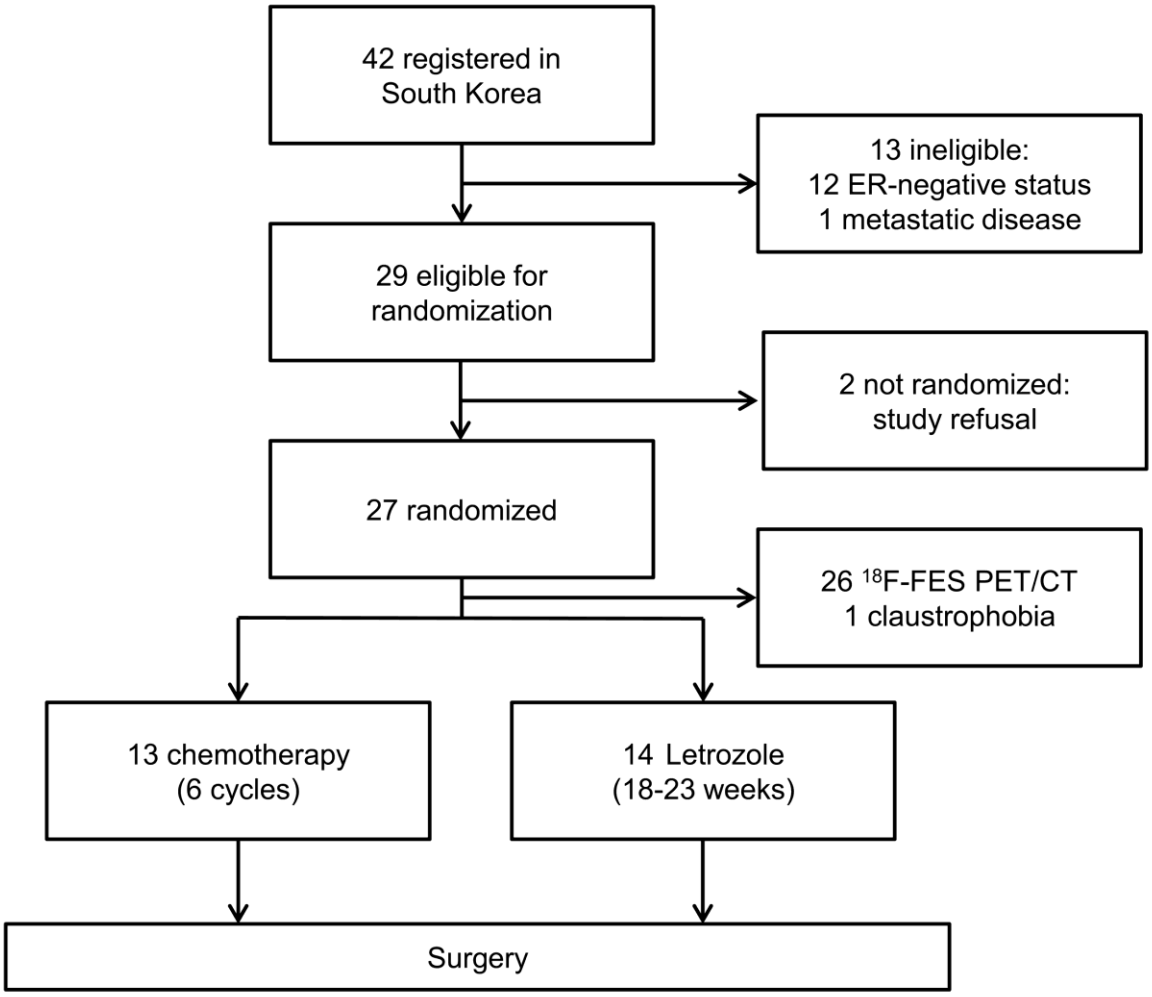
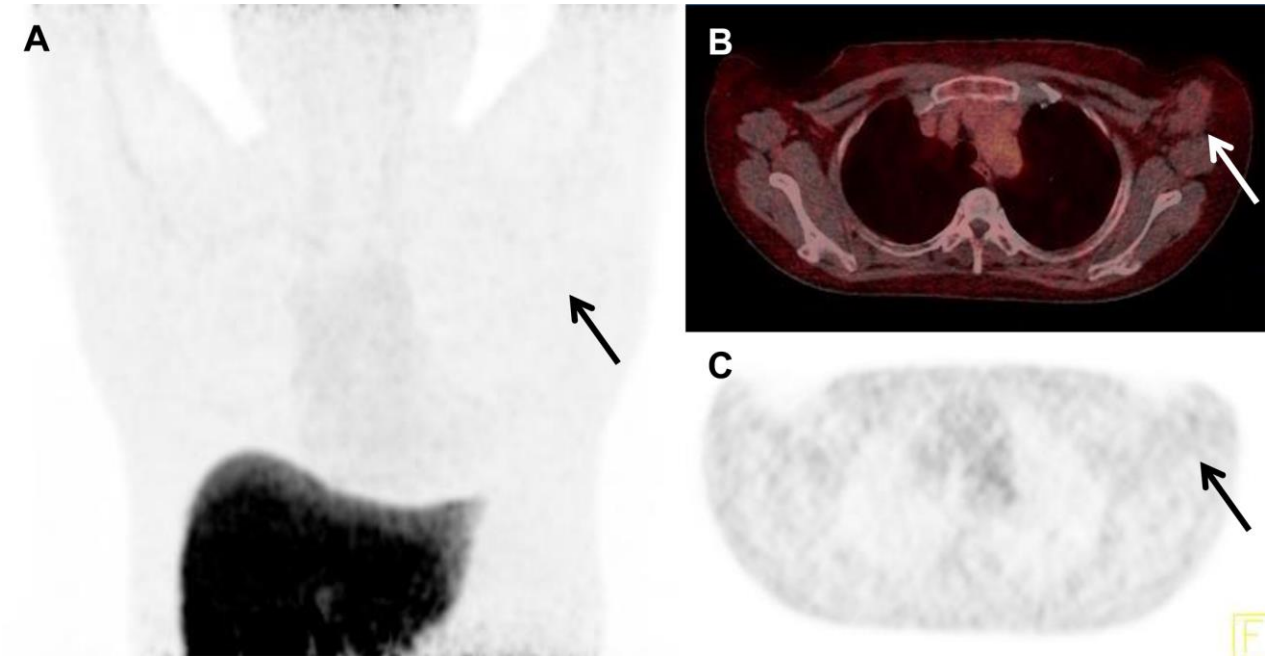
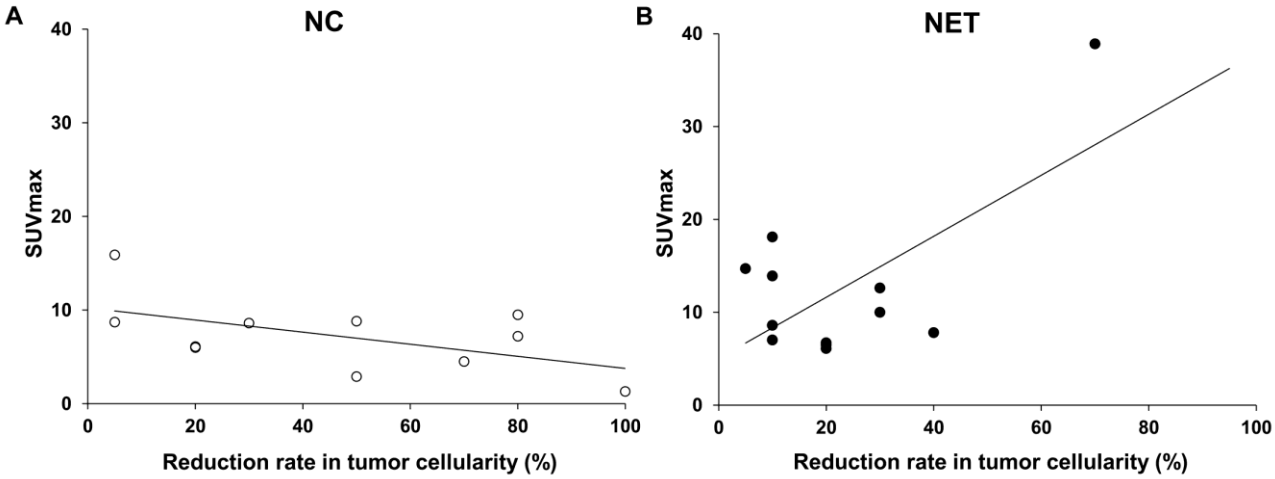


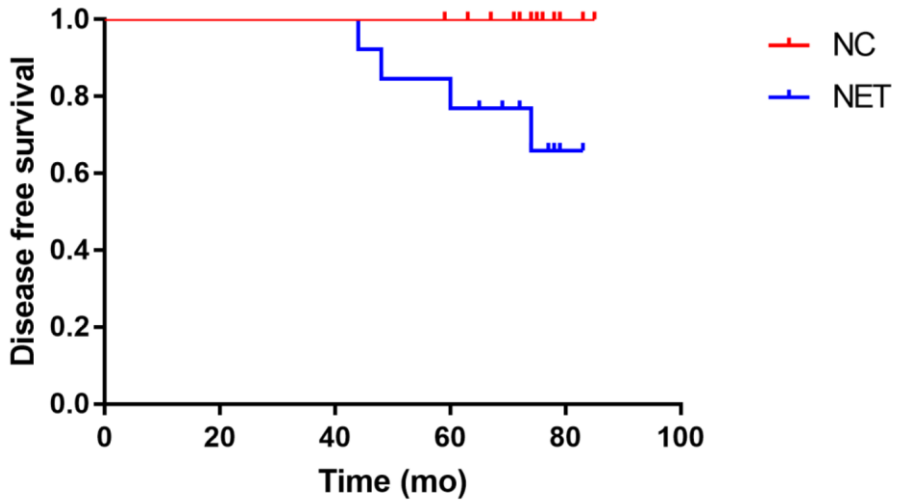
SUPPLEMENTAL FIGURE 1. Feasibility of recruitment and trial design.



SUPPLEMENTAL FIGURE 2. A 54-year-old female with histological grade 2, ER-positive (Allred score 6), progesterone receptor-negative, HER2-positive breast cancer. Maximum-intensity-projection (A) and transverse PET/CT (B and C) images show negative ^{18}F-FES uptake of the left axillary mass (arrows: SUVmax = 1.6). pCR was achieved after neoadjuvant chemotherapy.



SUPPLEMENTAL FIGURE 3. The relationship between the SUVmax of ^{18}F-FES uptake and the percentage reduction of tumor cellularity after removing patients with HER2 positive in the NC (A) and NET (B) groups. The SUVmax in the NC group negatively correlates with the reduction rates in tumor cellularity with a borderline significant trend (r = −0.55, *P* = 0.08), while positive correlation is observed in the NET group (r = 0.63, *P* = 0.03).



SUPPLEMENTAL FIGURE 4. Kaplan-Meier curves for disease-free survival between treatment arms. Patients with NC showed significantly higher rates of survival than those with NET ($P = 0.04$).

Supplemental Table 1. Surgery and adjuvant treatment following neoadjuvant chemotherapy or endocrine therapy

	Neoadjuvant therapy (number)		
	Chemotherapy	Endocrine therapy	*P* value
Surgery			0.18
Breast-conserving operation	6	9	
Modified radical mastectomy	6	4	
Axillary lymph node dissection	1	0	
Chemo- or endocrine adjuvant therapy			N. A.
Chemotherapy (AC or ACT)	0	13	
Endocrine therapy	13	13	
Adjuvant HER2 targeted therapy			0.11
HER2 positive with trastuzumab	2	1	
HER2 positive without trastuzumab	1	0	
No residual tumor with trastuzumab*	1	0	
No HER2 targeted therapy	9	12	
Adjuvant radiation			1.00
Yes	9	10	
No	4	3	

*HER2 status was positive on the biopsy specimen. AC: doxoruibicin and cyclophophamide; ACT: doxorubicin, cyclophosphamide and taxane; N.A.: not applicable.