

Table S1 Radiological tumors' features across different imaging modalities

Diagnosis	Clinical presentation	Mammography findings	US findings	PET-CT findings
Case 1. Endometrioid adenocarcinoma	A 51-year-old woman with axillary lymphadenopathy of her left side	High density mass with microlobulated margins, skin thickening and trabecular thickening. Irregular axillary lymph node	Irregular hypoechoic mass with non-parallel orientation and heterogeneous echogenicity	FDG hot uptake in the left breast (SUVmax =22), axillary node (SUVmax =18), left adrenal gland (SUVmax =12), liver and uterine cervix
Case 2. Endometrioid adenocarcinoma	A 57-year-old woman was initially referred to our hospital when she felt a mass in her left axillae	No suspicious lesion	Two axillary lymph nodes with eccentric fatty hilum and symmetric cortical thickening	Hypermetabolic activity in left axillary lymph nodes (SUVmax =16) as well as endometrium (SUVmax =24)
Case 3. Multiple myeloma	A 51-year-old female with multiple myeloma (IgG lambda)	High density mass with indistinct margins in her right breast	An irregular mass with cystic/solid composition, microlobulated margins, parallel orientation, which exhibited enhanced peripheral and solid portion vasculature at the color Doppler	Hypermetabolic mass in the right breast (SUVmax =7)
Case 4. Lung adenocarcinoma moderately differentiated	A 43-year-old female diagnosed with lung adenocarcinoma. Six months after being diagnosed, she developed a palpable mass with mastalgia in her left breast	Multiple masses with obscured margin and equal density to fibroglandular tissue in the upper internal quadrant, diffuse skin thickening, lymph nodes with high density	Multiple irregular hypoechoic masses with microlobulated margins and vascularity	Unrealized
Case 5. Lung adenocarcinoma	A 34-year-old woman with left breast lesion which was accompanied by ipsilateral chest discomfort	Asymmetric breast, skin and trabecular thickening	Non-mass lesion, and enlarged lymph nodes	Hypermetabolic intense FDG-avid ill-defined left breast lesion (SUVmax =19) and multiple hypermetabolic lung nodules (SUVmax =14.7)
Case 6. Papillary thyroid carcinoma	A 46-year-old woman with papillary thyroid cancer. Eight months after being diagnosed, she was referred for enlargement of her left breast and mastalgia	Round and enlarged lymph nodes in the left axilla, with diffuse cortical thickening. Skin thickening and trabecular	Round lymph nodes with diffuse cortical thickening, and loss of the fatty hilum	Multiple hypermetabolic supracervical, mediastinal and axillary lymphadenopathies (SUVmax =2)
Case 7. Cervical cancer	A 65-year-old woman with stage IIB cervical cancer. One month after being diagnosed, she developed a palpable mass in the left breast	Skin thickening and trabecular thickening	Multiple hypoechoic irregular nodules, with microlobulated margins and enhanced vascularity. Enlarged lymph nodes with fat necrosis in axilla	Hypermetabolic subcutaneous lesions in the anterior chest wall (SUVmax =2)
Case 8. Alveolar soft tissue sarcoma	A 23-year-old woman with alveolar soft tissue sarcoma of the left foot. One month after being diagnosed, she was presenting two masses in her left breast	Unrealized	Two irregular masses, one of which with microlobulated margins. Both nodules were parallel in orientation, while show heterogeneous echogenicity and high vascularity	Hypermetabolic nodular lesions in the left breast (SUVmax =3). Also, a metastatic lesion affecting the abdominopelvic region as well as the groin area (SUVmax =6.4)

US, ultrasound; PET, positron emission tomography; CT, computed tomography; FDG, fludeoxyglucose; SUVmax, maximum standardized uptake value.