Role of contrast enhanced digital mammography in post treated breast cancer

Thesis
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"To the soul of my father

Who is always giving me

the strength to carry on"

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ABSTRACT

This was prospective study carried on 69 female patients presenting with history of previous treatment of breast cancer, who require follow up. It included 63 post-operative patients and 6 patients who had received NAC. The results were studied and correlated. One of the imaging modalities is contrast-enhanced spectral mammography (CESM) that improves the sensitivity for breast cancer detection without decreasing specificity as it provides higher contrast and better lesion delineation than mammography alone. CESM is an imaging technique combining digital mammography with intravenous injection of iodinated contrast media to detect hypervascularized lesions. Addition of iodinated contrast agent to mammography facilitates the visualization of breast lesions.

Keywords: CESM- breast cancer-post operative-neoadjuvent chemotherapy

LIST OF ABBREVIATIONS

ACR	American College of Radiology
AJCC	American Joint Cancer Committee
Al	Aluminum
BCS	Breast conservative surgery
BIRADS	Breast imaging reporting and database system
CBS	Conservative breast surgery
CC	Craniocaudal
CEDM	Contrast enhanced digital mammography
CESM	Contrast enhanced spectral mammography
cM	Clinical distant metastasis
cN	Clinical regional lymphnode
CR	Complete response
CT	Computed tomography
cT	Clinical primary tumor
cu	Copper
DCE-MRI	Dynamic contrast enhanced magnetic resonance imaging
DCIS	Ductal carcinoma insitu
DE	Dual energy
DFS	Disease-free survival
EBRT	External-beam radiation therapy
EGFR	Epidermal growth factor receptor
ER	Estrogen receptor
FNAC	Fine needle aspiration cytology
G	Grade
GE	General Electric
HER2	Human epidermal growth factor receptor 2
IDC	Invasive ductal carcinoma
ILC	Invasive lobular carcinoma
ITCs	Isolated tumor cells
KeV	kilo electron volt
KFT	Kidney function test
KV	kilo volt
kVp	Peak kilovoltage
LCIS	Lobular carcinoma insitu
M	Distant metastasis
MG	Mammography

MLO	Mediolateral oblique
Mo	Molybdenum
MRI	Magnetic resonance imaging
MRM	Modified radical mastectomy
N	Regional lymphnode
NAC	Neoadjuvent chemotherapy
NME	Non mass enhancement
OS	Overall survival
pCR	Pathologic complete response
PD	Progressive disease
pM	Pathological distant metastasis
pN	Pathological regional lymphnode
PR	Progesterone receptor
PR	Partial response
pT	Pathological primary tumor
RECIST	Response evaluation criteria in solid tumors
Rh	Rhodium
RT-PCR	Reverse transcriptase-polymerase chain reaction
SD	Stable disease
SPSS	Statistical Package for the Social Science
T	Primary Tumor
TDLU	Terminal duct–lobular unit
Tis	Carcinoma insitu
TNBCs	Triple negative breast cancers
US	Ultrasound

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