LOKAL İLERİ MEME KANSERİNDE SİSTEMİK TARAMA

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Metastaz taraması neden önemli

Küratif tedavi ?

Palyatif tedavi ?

TNM evreleme

Evre	T	N	M
3A	T3	N1	M0
	T0-3	N2	M0
3B	T4	N0-2	M0
3C	T0-4	N3	M0

Breast carcinoma TNM anatomic stage group AJCC UICC 2017

SEER database ,2007-2013

TNM evreleme

Evre	T	N	M
3A	T3	N1	M0
			M0
			M0
3C	T0-4	N3	M0

Tanı anında metastatik hastalık oranı %6 !

Breast carcinoma TNM anatomic stage group AJCC UICC 2017

SEER database ,2007-2013

Kimler sistemik hastalık açısından taranmalı

Asemptomatik metastatik hastalık prevalansı

→erken evre (1-2) de %0.2-%1.2

→Evre 3 (%13.9)

→inflamatuvar meme kanseri (%39.6)

**Tümör boyutu ve tutulan lenf nodu sayısı yüksek olan hastalarda asemptomatik metastatik hastalık prevalansı↑

Brennan ME, Houssami N.Breast. 2012.PMID: 22094116

Sem ararı
??

Lokalize kemik ağrısı ,ALP↑

Anormal KCFT ,abdominal ağrı

Öksürük , hemoptizi

Fizik muayene bulgusu

Louie RJ et al. Breast Cancer Res Treat. 2015.PMID: 26467045
Ravaioli A et al.Breast Cancer Res Treat. 2002.PMID: 12000220
Puglisi F et al.Ann Oncol. 2005 Feb;16. PMID: 15668281
Brothers JM et al.Breast Cancer Res Treat. 2016 .PMID: 26797222

- Patolojik N2/N3 hastalarda rutin metastaz taraması ??

*metastaz insidansı ;n=1329,%68 N2,%32 N3

T0/T1→%0 **T3→%22**

T2→%6 **T4→%36**

Chu QD et al. J Am Coll Surg. 2012. PMID: 22342788

Nasıl tarama yapılmalı

PREOPERATIVE SYSTEMIC THERAPY FOR OPERABLE DISEASE: WORKUP
CLINICAL STAGE

T2, N0, M0

T2, N1, M0
T3, N0, M0

T3, N1, M0

and

Fulfills criteria for breast-conserving surgery except for tumor size[kk]

or

Has node-positive disease likely to become node-negative with preoperative systemic therapy

→

- History and physical exam
- Diagnostic bilateral mammogram; ultrasound as necessary
- Pathology review[b]
- Axillary assessment with exam; ultrasound or other imaging as necessary, and percutaneous biopsy of suspicious nodes
- Determination of tumor ER/PR status and HER2 status[c]
- Genetic counseling if patient is high risk for hereditary breast cancer[d]
- Breast MRI[e] (optional), with special consideration for mammographically occult tumors
- Counseling for fertility concerns if premenopausal; pregnancy test in all women of childbearing potential[f]
- Assess for distress[g]

Additional studies consider:[h]

- CBC
- Comprehensive metabolic panel, including liver function tests and alkaline phosphatase
- Chest diagnostic CT with contrast
- Abdominal ± pelvic diagnostic CT with contrast or MRI with contrast
- Bone scan or sodium fluoride PET/CT[i] (category 2B)
- FDG PET/CT[j,k] (optional)

→ See Preoperative Systemic Therapy: Breast and Axillary Evaluation (BINV-11)

[b] The panel endorses the College of American Pathologists Protocol for pathology reporting for all invasive and noninvasive carcinomas of the breast. http://www.cap.org.
[c] See Principles of HER2 Testing (BINV-A).
[d] See NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast and Ovarian.
[e] See Principles of Dedicated Breast MRI Testing (BINV-B).
[f] See Fertility and Birth Control (BINV-C).
[g] See NCCN Guidelines for Distress Management.
[h] Routine systemic staging is not indicated for early breast cancer in the absence of symptoms.
[i] If FDG PET/CT is performed and clearly indicates bone metastasis, on both the PET and CT component, bone scan or sodium fluoride PET/CT may not be needed.
[j] FDG PET/CT can be performed at the same time as diagnostic CT. The use of PET or PET/CT is not indicated in the staging of clinical stage I, II, or operable stage III breast cancer. FDG PET/CT is most helpful in situations where standard staging studies are equivocal or suspicious, especially in the setting of locally advanced or metastatic disease.
[k] FDG PET/CT may also be helpful in identifying unsuspected regional nodal disease and/or distant metastases in locally advanced breast cancer when used in addition to standard staging studies.
[kk] In cases where breast-conserving surgery may not be possible but patient will need chemotherapy, preoperative systemic treatment remains an acceptable option. This may be of benefit for patients who may be able to avoid ALND with a good response to therapy (T2,N1,M0, T3,N0,M0, T3,N1,M0) See ST-1.

Note: All recommendations are category 2A unless otherwise indicated.
Clinical Trials: NCCN believes that the best management of any patient with cancer is in a clinical trial. Participation in clinical trials is especially encouraged.

PREOPERATIVE SYSTEMIC THERAPY FOR INOPERABLE OR LOCALLY ADVANCED BREAST CANCER (NON-INFLAMMATORY)

CLINICAL STAGE **WORKUP**

T0, N2, M0
T1, N2, M0
T2, N2, M0
T3, N2, M0

- History and physical exam
- Diagnostic bilateral mammogram; ultrasound as necessary
- Pathology review[b]
- Determination of tumor ER/PR status and HER2 status[c]
- Genetic counseling if patient is high risk for hereditary breast cancer[d]
- Breast MRI[e] (optional), with special consideration for mammographically occult tumors
- Counseling for fertility concerns if premenopausal; pregnancy test in all women of childbearing potential[f]
- Assess for distress[g]

Patients with T3, N1, M0 disease, see BINV-10

T4, N0, M0
T4, N1, M0
T4, N2, M0

Any T, N3, M0

Additional studies to consider:

- CBC
- Comprehensive metabolic panel, including liver function tests and alkaline phosphatase
- Chest diagnostic CT with contrast
- Abdominal ± pelvic diagnostic CT with contrast or MRI with contrast
- Bone scan or sodium fluoride PET/CT[i] (category 2B)
- FDG PET/CT[j,k] (optional)

See Preoperative Systemic Therapy For Inoperable or Locally Advanced Breast Cancer (Non-Inflammatory) (BINV-15)

[b] The panel endorses the College of American Pathologists Protocol for pathology reporting for all invasive and noninvasive carcinomas of the breast. http://www.cap.org.
[c] See Principles of HER2 Testing (BINV-A).
[d] See NCCN Guidelines for Genetic/Familial High-Risk Assessment: Breast and Ovarian.
[e] See Principles of Dedicated Breast MRI Testing (BINV-B).
[f] See Fertility and Birth Control (BINV-C).
[g] See NCCN Guidelines for Distress Management.

[i] If FDG PET/CT is performed and clearly indicates bone metastasis, on both the PET and CT component, bone scan or sodium fluoride PET/CT may not be needed.
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En sık metastaz bölgeleri

	%	Otopsi %
Kemik	40-75	44-71
Akciğer	5-15	59-79
Karaciğer	3-10	56-65
Beyin	<5	9-20
Adrenal	<5	30-49

Lee YT.J Surg Oncol. 1983.PMID: 6345937

Tüm Vücut Kemik Sintigrafisi

- 99m-Tc-methylene diphosphonate (^{99m}Tc-MDP)
- Osteoblastik aktivite olan bölgelerde √
- Tüm iskelet sistemini değerlendirme olanağı √
- Sensitivite … %80-86
- Spesifite … %81-88
- Yanlış pozitiflik … %10-22
- Yanlış negatiflik … %10

Yang HL et al.Eur Radiol. 2011. PMID: **21887484**
Wikenheiser KA, Silberstein EB. Cleve Clin J Med. 1996 PMID: 8590515

KC-US

Study	Year of report	Cancer stage; % (and no.) of patients with positive result			
		Stage I	Stage II	Stage III	Total
Ciatto et al[7]	1988	0 (0/132)	0.2 (1/462)	0.5 (1/194)	0.3 (2/788)
Clark et al[30]	1988	0 (0/110)	0 (0/86)	4.2 (1/24)	0.5 (1/220)
Glynne-Jones et al[9]	1991	0 (0/54)	1.8 (3/167)	4.0 (2/50)	1.8 (5/271)
Cox et al[10]	1992	0 (0/127)	0 (0/182)	5.4 (2/37)	0.6 (2/346)
All studies		0 (0/423)	0.4 (4/897)	2.0 (6/305)	0.6 (10/1625)
95% CI		0.0	0.0–0.8	0.4–3.6	0.2–1.0

Myers RE et al CMAJ. 2001. PMID: 11387916

PA AC

Study	Year of report	Cancer stage; % (and no.) of patients with positive result			
		Stage I	Stage II	Stage III	Total
Ciatto et al[7]	1988	0.1 (1/873)	0.2 (3/1943)	1.0 (7/682)	0.3 (11/3498)
Glynne-Jones et al[9]	1991	0 (0/64)	0.8 (2/240)	7.3 (6/82)	2.1 (8/386)
All studies		0.1 (1/937)	0.2 (5/2183)	1.7 (13/764)	0.5 (19/3884)
95% CI		0–0.3	0–0.4	0.8–2.6	0.3–0.7

Myers RE et al CMAJ. 2001. PMID: 11387916

- evre 3 meme kanserinde uzak metastaz saptama oranı; TVKS:%8.3

  KC-US :%2

  PA AC :%1.7
- Yanlış pozitiflik ;TVKS :%10-22,

  KC-US: %33-66

  PA AC :% 0-23

Myers RE, et al. **CMAJ**. 2001 .PMID: 11387916

- Kombine konvansiyonel değerlendirmede (KC-US + PA AC + TVKS) metastatik hastalık için

  sensitivite %78 (33.3 - 100)

  spesifite %91.4 (67.3 - 97.9)

Brennan ME, Houssami N.Breast. 2012.PMID: 22094116

Kontrastlı Bilgisayarlı Tomografi

- Evre 3 hastalarda aseptomatik metastaz saptama oranı %31.3
- Evre 3B ve 3C hastalarda %71.4
- Yanlış pozitiflik % 8.7

Brennan ME, Houssami N.Breast. 2012.PMID: 22094116

Kontrastlı Bilgisayarlı Tomografi

- ≥T3 ve ≥N2 → BT ile asemptomatik uzak metastaz saptama oranı ↑ (p< 0.0001)
- Sensitivite… %100
- Spesifite … % 93.1

Tanaka S et al. Oncol Lett. 2012. PMID: 22740991

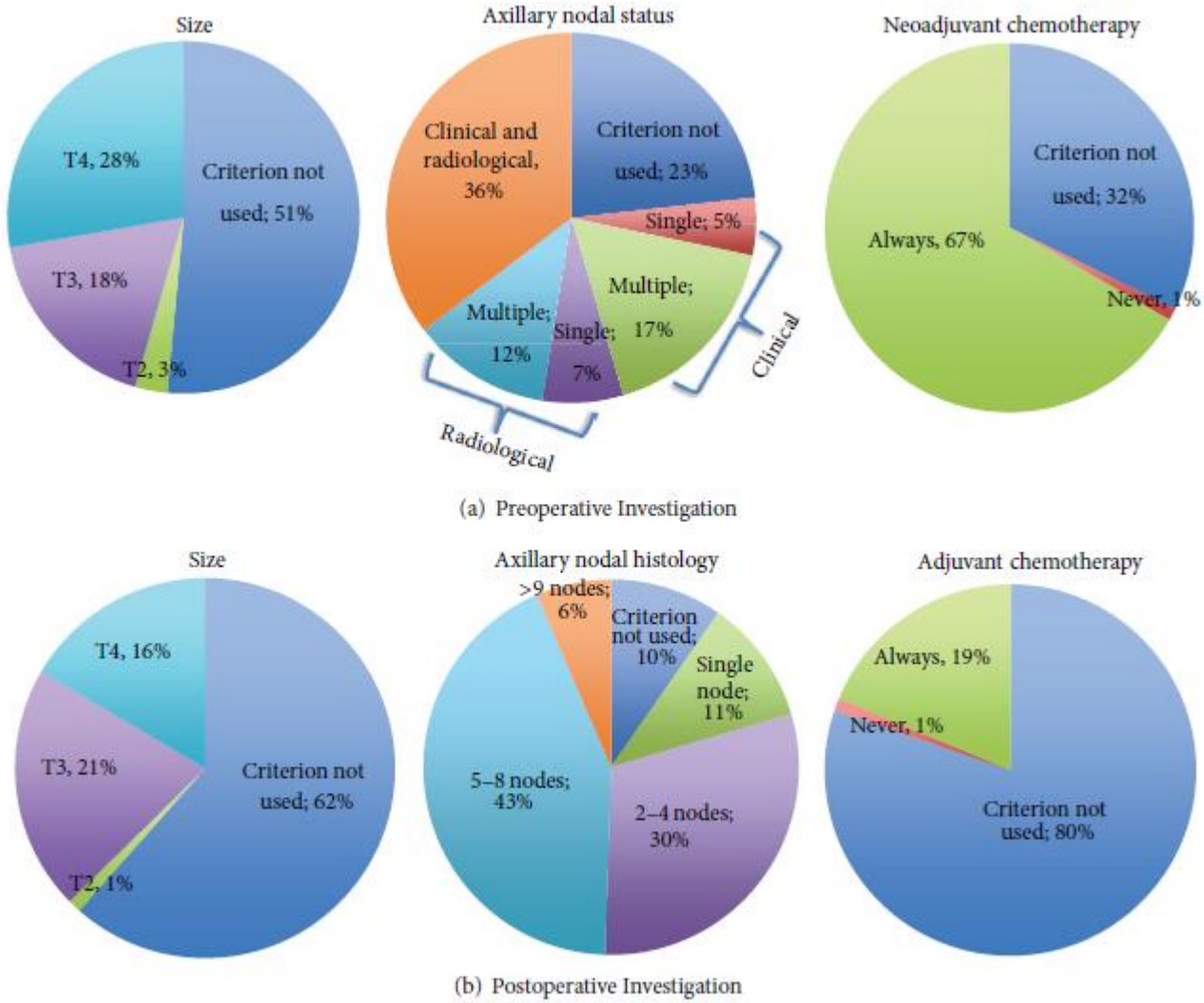

FIGURE 3: Criteria for pre- and postoperative CT staging for metastatic disease.

Chand N et al.Int J **Breast Cancer**. 2013. PMID: 24349790

18F-florodeoksiglukoz Positron Emisyon Tomografi

- Aksiller ve ekstra-aksiller lenf nodlarının saptanmasında daha iyi

  Sensitivite … %100

  Spesifite … %98

Fuster D et al. J Clin Oncol. 2008. PMID: 18695254
Mahner S et al. Ann Oncol. 2008.PMID: 18356138
Damle NA et al. Jpn J Radiol. PMID: 23377765
Yoon SH et al. Nucl Med Mol Imaging. 2013.PMID: **24895505**

18F-florodeoksiglukoz Positron Emisyon Tomografi

- >KC-US &PA AC
- BT ye üstün değil !
- Litik &mikst kemik metastazlarında > TVKS
- Sklerotik kemik metastazlarında ?

Fuster D et al. J Clin Oncol. 2008. PMID: 18695254
Mahner S et al. Ann Oncol. 2008.PMID: 18356138
Damle NA et al. Jpn J Radiol. PMID: 23377765
Yoon SH et al. Nucl Med Mol Imaging. 2013.PMID: **24895505**

AC metastazlarını saptamada

BT > fdg PET /BT

Groheux D et al. J Nucl Med. 2016 PMID: 26834096

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CLINICAL STAGE — **WORKUP**

T0, N2, M0
T1, N2, M0
T2, N2, M0
T3, N2, M0

- History and physical exam
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Patients with T3, N1, M0 disease, see BINV-10

T4, N0, M0
T4, N1, M0
T4, N2, M0

Any T, N3, M0

Additional studies to consider:

- CBC
- Comprehensive metabolic panel, including liver function tests and alkaline phosphatase
- Chest diagnostic CT with contrast
- Abdominal [illegible] with contrast
- Bone scan [illegible] sodium fluoride PET/CT[i] (category 2B)
- FDG PET/CT[j,k] (optional)

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Sonuç olarak..

- Erken evre hastalıkta ; bulgu/ semptom yoksa… sistemik tarama gerekli değil

- Evre 3A (T3N1 hariç) -3B ve 3C hastalıkta asemptomatik metastaz taraması gerekli

Sonuç olarak..

- Öncelikle….tanısal konvansiyonel tetkikler

- Konvansiyonel tetkiklerde şüpheli sonuçlar varlığında FDG-PET / BT √