

# MEME HASTALIKLARINDA GİRİŞİMSEL RADYOLOJİ

## 7. BÖLÜM

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### Giriş

Meme hastalıklarının yönetimi, farklı branşlardaki uzmanlar tarafından oluşturulan multidisipliner bir takım tarafından en iyi şekilde sağlanır(1). Son yıllarda meme radyolojisinde hem tanısal hem de girişimsel alanda kayda değer ilerleme sağlanmıştır. Perkütan işlemler multidisipliner yönetimin bir parçasıdır ve hastalara daha iyi bilgi sağlar. Görüntüleme eşliğinde perkütan biyopsi uygulaması sonrası gereksiz cerrahi işlemlerden kaçınılabılır. Biyopsi, uygulanacak cerrahi ve medikal tedavilere yön verir. Preoperatif işaretleme ameliyatı yönlendirir ve yetersiz veya aşırı cerrahi tedaviyi sınırlandırır. Tümörlerin ablasyon yöntemi ile tedavi edilmesi bazen yaşlı veya zayıf kadınların ameliyatının yerini alabilir. Bu belirtilen nedenlerden dolayı meme hastalıkları yönetiminde girişimsel radyoloji önemli rol oynamaktadır(2).

### Rehberlik Görüntüleme Yöntemleri

Girişimsel meme prosedürleri görüntüleme ile yönlendirilir . Bazı durumlarda aşık lezyonlar için klinik rehberlik yeterli olabilir, ancak radyolojik kontrol daha kesin hedeflemeye yön verir(3) .Meme lezyonları için radyolojik rehberlik esastır. Klavuz olarak kullanılacak görüntüleme türünün seçimi bazı kriterlere göre belirlenir. Bu kriterler; hızlılık, maliyet, radyasyon, anormalliklerin daha iyi görselleştirilmesi, tekniğin kullanılabilirliği, ekip deneyimidir. Bu kriterler göz önüne

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isnterstisyuma geçer ve dehidrasyon ve başlangıç hücre hasarı ile sonuçlanır. Bu işlem en azından kısmen geri dönüşümlüdür. Bununla birlikte, donma çok hızlı bir şekilde gerçekleşirse, sıvının çoğu hücre içi kalır, çünkü ozmotik işlemler için yeterli zaman yoktur. Bu da hücre içi buz kristallerinin oluşumuna neden olur. Bunlar hücre zarı ve hücre organelleri üzerinde yıkıcı bir etkiye sahiptir. Çözünme sırasında, su hipotonik isterstisyumdan hücrelere akar, böylece daha fazla hücre hasarı veya hatta hücrelerin patlaması ile sonuçlanır (70).

Perkütan kriyoablasyon için iki sistemlerde donma için argon ve çözme için helyum kullanır. Kriyoterapinin diğer tekniklere kıyasla uygulama ile ilgili avantajı, soğüğün anestezik etkisi nedeni ile lokal anestezi ile tedavinin uygulanabilirliğidir. Memenin kriyoterapisi başlangıçta semptomatik fibroadenomları tedavi etmek için başarılı bir şekilde kullanılmıştır (71). Tedavi sonucunda belirgin bir hacim azalması oluşur. Fibroadenomların %80'inden fazlasında bir yıl sonra lezyon palpasyon ile hissedilemez (72). Meme kanseri tedavisinde, son dönem metaanalizlerinde teknik başarı oranını %93 olarak tanımlamaktadırlar (73). Dikkat edilecek nokta 2 cm'den büyük tümörlerde lokal nüks oranının yüksek olduğunun bilinmesidir (74).

## Kaynaklar

1. N. O'Higgins, D.A. Linos, M. Blichert-Toft, et al. European guidelines for quality assurance in the surgical management of mammographically detected lesions. *Ann Chir Gynaecol* 1998;87:110-112
2. M. Wallis, A. Tardivon, T. Helbich, I. Schreer. European Society of Breast Imaging Guidelines from the European Society of Breast Imaging for diagnostic interventional breast procedures. *Eur Radiol* 2007;17:581-588
3. T. Agarwal, B. Patel, P. Rajan, D.A. Cunningham, A. Darzi, D.J. Hadjiminias. Core biopsy versus FNAC for palpable breast cancers. Is image guidance necessary? *Eur J Cancer* 2003;39:52-56
4. Floery D, Helbich TH. MRI-guided percutaneous biopsy of breast lesions: materials, techniques, success rates, and management in patients with suspected radiologic-pathologic mismatch. *Magn Reson Imaging Clin N Am* 2006;14:411-425.
5. Kuhl CK, Mielcareck P, Klaschick S, et al. Dynamic breast MR imaging: are signal intensity time course data useful for differential diagnosis of enhancing lesions? *Radiology* 1999;211:101-110.
6. Boetes C, Strijk SP, Holland R, et al. False negative MR imaging of malignant breast tumours. *Eur Radiol* 1997;7:1231-1234.
7. Viehweg P, Heinig A, Amya B, et al. MR-guided interventional breast procedures considering vacuum biopsy in particular. *Eur J Radiol* 2002;42:32-39.
8. Devaraj S, Iqbal M, Donnelly J, et al. Axillary ultrasound in invasive breast cancer: experience of our surgeons. *Breast J* 2011;17:191-195.
9. Law MT, Bennett IC. Structured ultrasonography workshop for breast surgeons: is it an effective training tool? *World J Surg* 2010;34:549-554.

10. Layeequr Rahman R, Crawford S, Hall T, et al. Surgical-office-based versus radiology-referral-based breast ultrasonography: a comparison of efficiency, cost, and patient satisfaction. *J Am Coll Surg* 2008;207:763-766.
11. Holmes DR, Silverstein MJ. A minimally invasive breast biopsy clinic: an innovative way to teach breast fellows how to perform breast ultrasound and ultrasound-guided breast procedures. *Am J Surg* 2006;192:439-43.
12. Rakha EA, Ellis IO. An overview of assessment of prognostic and predictive factors in breast cancer needle core biopsy specimens. *J Clin Pathol* 2007;60:1300-6.
13. M.J. Silverstein, M.D. Lagios, A. Recht, et al. Image-detected breast cancer: state of the art diagnosis and treatment. Special report: international consensus conference II. *J Am Coll Surg* 2005;201:586-597
14. Agence nationale d'accreditation et devaluation en sante Conduite a tenir diagnostique devant une image mammographique infraclinique anormale Recommandations et references professionnelles, Anaes, Paris, 1998: 110-155
15. Recommandations pour la pratique clinique. Cancer du sein in situ. INCa. Oct 2009.
16. Guide du bon usage des examens dimagerie medicale. Societe française de radiologie, Paris, 2005.
17. Haute Autorite de sante. Guide ALD 30 Cancer du sein. Paris, Jan 2010.
18. Kocjan G. Fine needle aspiration cytology. Inadequate rates compromise success. *Cytopathology* 2003;14:307-308.
19. Kocjan G, Bourgain C, Fassina A, et al. The role of breast FNAC in diagnosis and clinical management: a survey of current practice. *Cytopathology* 2008;19:271-278.
20. Hayes R, Michell M, Nunnerley HB. Acute inflammation of the breast- the role of breast ultrasound in diagnosis and management. *Clin Radiol* 1991;44:253-256.
21. E.A.M. O'Flynn, A.R.M. Wilson, M.J. Michell . Image-guided breast biopsy: state-of-the-art. *Clinical Radiology* 2010;65:259-270
22. Willems SM, van Deurzen CH, van Diest PJ. Diagnosis of breast lesions: fine-needle aspiration cytology or core needle biopsy? A review. *J Clin Pathol* 2012;65:287-292.
23. Garg S, Mohan H, Bal A, et al. A comparative analysis of core needle biopsy and fine-needle aspiration cytology in the evaluation of palpable and mammographically detected suspicious breast lesions. *Diagn Cytopathol* 2007;35:681-689.
24. Silverstein MJ, Recht A, Lagios MD, et al. Special report: Consensus conference III. Image-detected breast cancer: state-of-the-art diagnosis and treatment. *J Am Coll Surg* 2009;209:504-520.
25. Dahabreh IJ, Wieland LS, Adam GP, et al. Core Needle and Open Surgical Biopsy for Diagnosis of Breast Lesions: An Update to the 2009 Report [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2014 Sep.
26. Parker SH, Burbank F. A practical approach to minimally invasive breast biopsy. *Radiology*. 1996;200:11-20.
27. Soo MS, Baker JA, Rosen EL, Vo TT. Sonographically guided biopsy of suspicious microcalcifications of the breast: a pilot study. *AJR Am J Roentgenol*. 2002;178:1007-1015.
28. Soo MS, Baker JA, Rosen EL. Sonographic detection and sonographically guided biopsy of breast microcalcifications. *AJR Am J Roentgenol*. 2003;180:941-948.
29. Cho N, Moon WK, Cha JH, et al. Ultrasound-guided vacuum-assisted biopsy of microcalcifications detected at screening mammography. *Acta Radiol*. 2009;50:602-609.
30. Kim HS, Kim MJ, Kim EK, et al. US-guided vacuum-assisted biopsy of microcalcificati-

- ons in breast lesions and long-term follow-up results. *Korean J Radiol.* 2008;9:503–509.
31. Yi J, Lee EH, Kwak JJ, Cha JG, Jung SH. Retrieval rate and accuracy of ultrasound-guided 14-G semi-automated core needle biopsy of breast microcalcifications. *Korean J Radiol.* 2014;15:12–19.
  32. Yu PC, Lee YW, Chou FF, et al. Clustered microcalcifications of intermediate concern detected on digital mammography: ultrasound assessment. *Breast.* 2011;20:495–500.
  33. T.H. Helbich, M. Rudas, A. Haitel, et al. Evaluation of needle size for breast biopsy: comparison of 14-, 16-, and 18-gauge biopsy needles *Am J Roentgenol*, 1998;171:59–63
  34. N. Perry, M. Broeders, C. De Wolf, et al. European guidelines for quality assurance in breast cancer screening and diagnosis. 4th edition *Ann Oncol*, 2008;19:614–622
  35. J.E. Fishman, C. Milikowski, R. Ramsinghani, M.V. Velasquez, G. Aviram. US-guided core-needle biopsy of the breast: how many specimens are necessary? *Radiology* 2003;206:779–782
  36. Johnson NB, Collins LC. Update on percutaneous needle biopsy of nonmalignant breast lesions. *Adv Anat Pathol* 2009;16:183–195.
  37. Liberman L, Fahs MC, Dershaw DD, et al. Impact of stereotactic core breast biopsy on cost of diagnosis. *Radiology* 1995;195:633–637.
  38. Liberman L. Clinical management issues in percutaneous core breast biopsy. *Radiol Clin North Am* 2000;38:791–807.
  39. Liberman L, LaTrenta LR, Van Zee KJ, et al. Stereotactic core biopsy of calcifications highly suggestive of malignancy. *Radiology* 1997;203:673–677.
  40. Bassett L, Winchester DP, Caplan RB, et al. Stereotactic core-needle biopsy of the breast: a report of the Joint Task Force of the American College of Radiology, American College of Surgeons, and College of American Pathologists. *CA Cancer J Clin* 1997;47:171–190.
  41. Velanovich V, Lewis FR Jr, Nathanson SD, et al. Comparison of mammographically guided breast biopsy techniques. *Ann Surg* 1999;229:625–30; discussion 630–633.
  42. Youngson BJ, Liberman L, Rosen PP. Displacement of carcinomatous epithelium in surgical breast specimens following stereotaxic core biopsy. *Am J Clin Pathol* 1995;103:598–602.
  43. Diaz LK, Wiley EL, Venta LA. Are malignant cells displaced by large-gauge needle core biopsy of the breast? *AJR Am J Roentgenol* 1999;173:1303–1313.
  44. King TA, Hayes DH, Cederbom GJ, et al. Biopsy technique has no impact on local recurrence after breast-conserving therapy. *Breast J* 2001;7:19–24.
  45. Penco S, Rizzo S, Bozzini AC, et al. Stereotactic vacuum-assisted breast biopsy is not a therapeutic procedure even when all mammographically found calcifications are removed: analysis of 4,086 procedures. *AJR Am J Roentgenol* 2010;195:1255–1260.
  46. Burak WE Jr, Owens KE, Tighe MB, et al. Vacuum-assisted stereotactic breast biopsy: histologic underestimation of malignant lesions. *Arch Surg* 2000;135:700–703.
  47. Fine RE, Staren ED. Percutaneous radiofrequency-assisted excision of fibroadenomas. *Am J Surg* 2006;192:545–547.
  48. Sie A, Bryan DC, Gaines V, et al. Multicenter evaluation of the breast lesion excision system, a percutaneous, vacuum-assisted, intact-specimen breast biopsy device. *Cancer* 2006;107:945–9.
  49. Bassett LW, Manjikian V 3rd, Gold RH. Mammography and breast cancer screening.

- Surg Clin North Am 1990;70:775-800.
50. Balci P, Guneş N, Kocdor MA, Erkan N, Secil M, Dicle O. Nonpalpabl kitle lezyonlarında preoperatif lokalizasyon sonuçları: lezyonların mamografi k analizi. Meme Hastalıkları Dergisi 1997;4:123-127.
  51. Liberman L, Abramson AF, Squires F, Glassman JR, Morris EA, Dershaw DD. The breast imaging reporting and data system: positive predictive value of mammographic features and final assessment categories. AJR Am J Roentgenol 1998;171:35-40.
  52. Trifirò G, Viale G, Gentilini O, et al. Sentinel node detection in pre-operative axillary staging. Eur J Nucl Med Mol Imaging 2004;31:46-55.
  53. Crippa F, Gerali A, Alessi A, et al. FDG-PET for axillary lymph node staging in primary breast cancer. Eur J Nucl Med Mol Imaging 2004;31:97-102.
  54. Heusner TA, Kuemmel S, Hahn S, et al. Diagnostic value of full-dose FDG PET/CT for axillary lymph node staging in breast cancer patients. Eur J Nucl Med Mol Imaging 2009;36:1543-1550.
  55. Ueda S, Tsuda H, Asakawa H, et al. Utility of 18F-fluoro-deoxyglucose emission tomography/computed tomography fusion imaging (18F-FDG PET/CT) in combination with ultrasonography for axillary staging in primary breast cancer. BMC Cancer 2008;8:165.
  56. Meng Y, Ward S, Cooper K, et al. Cost-effectiveness of MRI and PET imaging for the evaluation of axillary lymph node metastases in early stage breast cancer. Eur J Surg Oncol 2011;37:40-46.
  57. Michel SC, Keller TM, Fröhlich JM, et al. Preoperative breast cancer staging: MR imaging of the axilla with ultrasmall superparamagnetic iron oxide enhancement. Radiology 2002;225:527-536.
  58. Motomura K, Ishitobi M, Komoike Y, et al. SPIO-enhanced magnetic resonance imaging for the detection of metastases in sentinel nodes localized by computed tomography lymphography in patients with breast cancer. Ann Surg Oncol 2011;18:3422-3429.
  59. Alvarez S, Añorbe E, Alcorta P, et al. Role of sonography in the diagnosis of axillary lymph node metastases in breast cancer: a systematic review. AJR Am J Roentgenol 2006;186:1342-1348.
  60. Britton P, Moyle P, Benson JR, et al. Ultrasound of the axilla: where to look for the sentinel lymph node. Clin Radiol 2010;65:373-376.
  61. Deurloo EE, Tanis PJ, Gilhuijs KG, et al. Reduction in the number of sentinel lymph node procedures by preoperative ultrasonography of the axilla in breast cancer. Eur J Cancer 2003;39:1068-1073.
  62. Mainiero MB, Cinelli CM, Koelliker SL, et al. Axillary ultrasound and fine-needle aspiration in the preoperative evaluation of the breast cancer patient: an algorithm based on tumor size and lymph node appearance. AJR Am J Roentgenol 2010;195:1261-1267.
  63. van Rijk MC, Deurloo EE, Nieweg OE, et al. Ultrasonography and fine-needle aspiration cytology can spare breast cancer patients unnecessary sentinel lymph node biopsy. Ann Surg Oncol 2006;13:31-35.
  64. Henry-Tillman R, Glover-Collins K, Preston M, et al. The SAVE review: sonographic analysis versus excision for axillary staging in breast cancer. J Am Coll Surg 2015;220:560-567.
  65. Guide des bons usages en radiologie interventionnelle. Societe française de radiologie. 2012, In press.

66. M. Wallis, A. Tardivon, T. Helbich, I. Schreer, European Society of Breast Imaging Guidelines from the European Society of Breast Imaging for diagnostic interventional breast procedures *Eur Radiol* 2007;17:581-588
67. R.L. Elliott, P.B. Rice, J.A. Suits, A.J. Ostrowe, J.F. Head. Radiofrequency ablation of a stereotactically localized nonpalpable breast carcinoma *Am Surg* 2002;68:1-5
68. H. Medina-Franco, S. Soto-Germes, J.L. Ulloa-Gómez, et al. Radiofrequency ablation of invasive breast carcinomas: a phase II trial *Ann Surg Oncol* 2008;15:1689-1695
69. M. Noguchi, M. Earashi, H. Fujii, K. Yokoyama, K. Harada, K. Tsuneyama. Radiofrequency ablation of small breast cancer followed by surgical resection *J Surg Oncol* 2006;93:120-128
70. Gage AA, Baust J. Mechanisms of tissue injury in cryosurgery. *Cryobiology* 1998; 37: 171-186
71. Edwards MJ, Broadwater R, Tafra L. et al. Progressive adoption of cryoablative therapy for breast fibroadenoma in community practice. *Am J Surg* 2004;188:221-224
72. Kaufman CS, Littrup PJ, Freman-Gibb LA. et al. Office-based cryoablation of breast fibroadenomas: 12-month followup. *J Am Coll Surg* 2004;198:914-923
73. Sabel MS, Kaufman CS, Whitworth P. et al. Cryoablation of early-stage breast cancer: work-in-progress report of a multiinstitutional trial. *Ann Surg Oncol* 2004;11:542-549
74. Mauri G, Sconfienza LM, Pescatori LC. et al. Technical success, technique efficacy and complications of minimally-invasive imaging-guided percutaneous ablation procedures of breast cancer: A systematic review and meta-analysis. *Eur Radiol* 2017;27:3199-3210