Sentinal Lenf Nodu İncelemesi

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ASCO SPECIAL ARTICLE

Sentinel Lymph Node Biopsy for Patients With Early-Stage Breast Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update

Gary H. Lyman, Sarah Temin, Stephen B. Edge, Lisa A. Newman, Roderick R. Turner, Donald L. Weaver, Al B. Benson III, Linda D. Bosserman, Harold J. Burstein, Hiram Cody III, James Hayman, Cheryl L. Perkins, Donald A. Podoloff, and Armando E. Giuliano

- Parafine gömerek mi? Dondurarak mı?
- Parafinbloklarda seviyeli kesitler gerekir mi?
- Parafin kesitlerde İHK gerekir mi?
- Dondurmadan sitolojik ya da makroskopik inceleme yeterli mi?
- Dondurarak incelemek güvenli mi?
- Moleküler incelemenin rolü var mı?

AMAÇ

Klinik olarak anlamlı metastazları saptamak

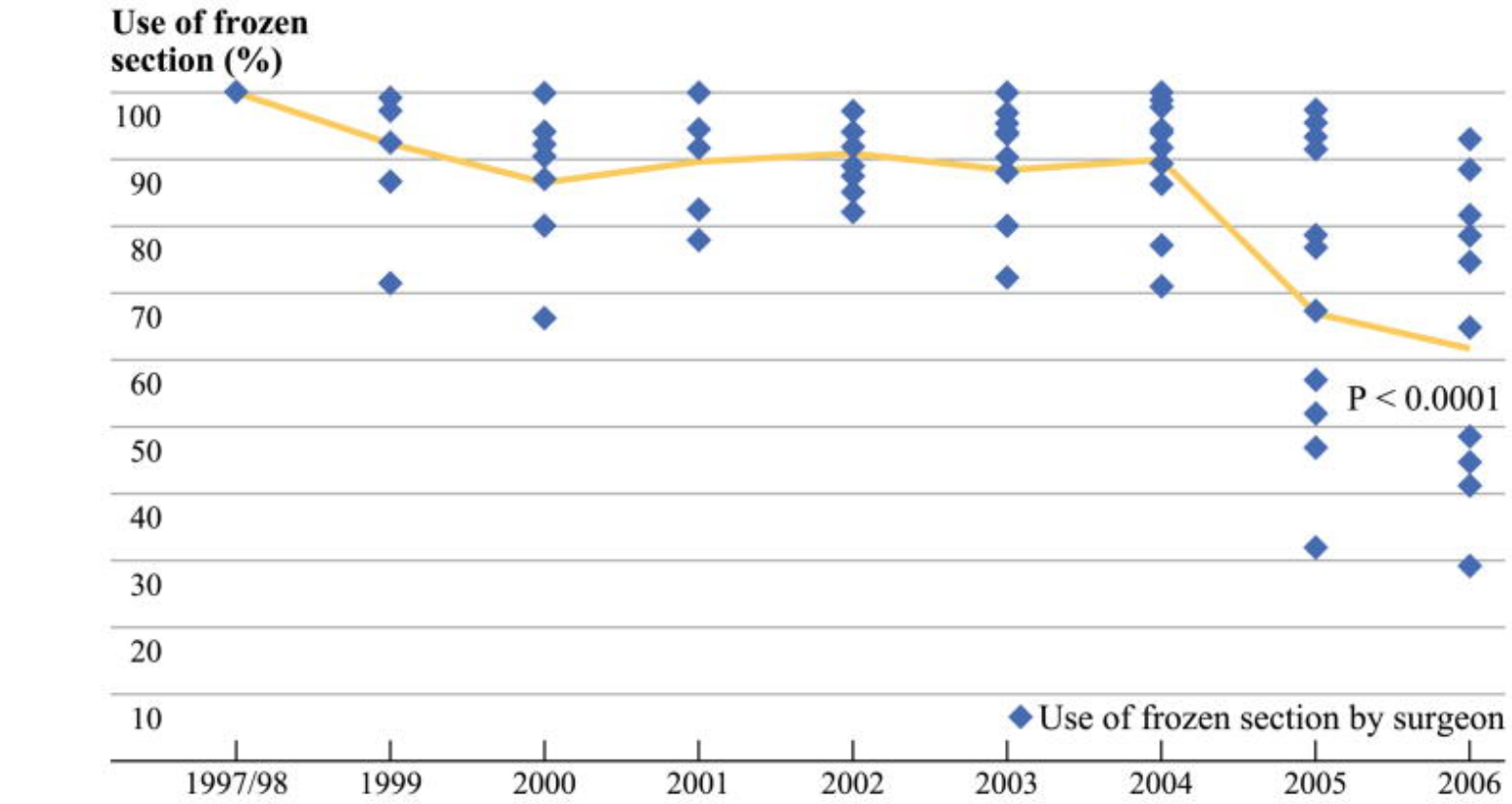
İntraoperatif değerlendirme

- Avantajı: SLN pozitifse anında aksiller disseksiyon yapabilme
- Limitasyonları:
  - %30-50 lere varan yanlış negatiflik
  - Doku kaybı
- İntraoperatif İnceleme Metodları:
  - Makroskopik
  - İmprint ile sitolojik inceleme
  - Kazıma ile sitolojik inceleme
  - Dondurarak kesit

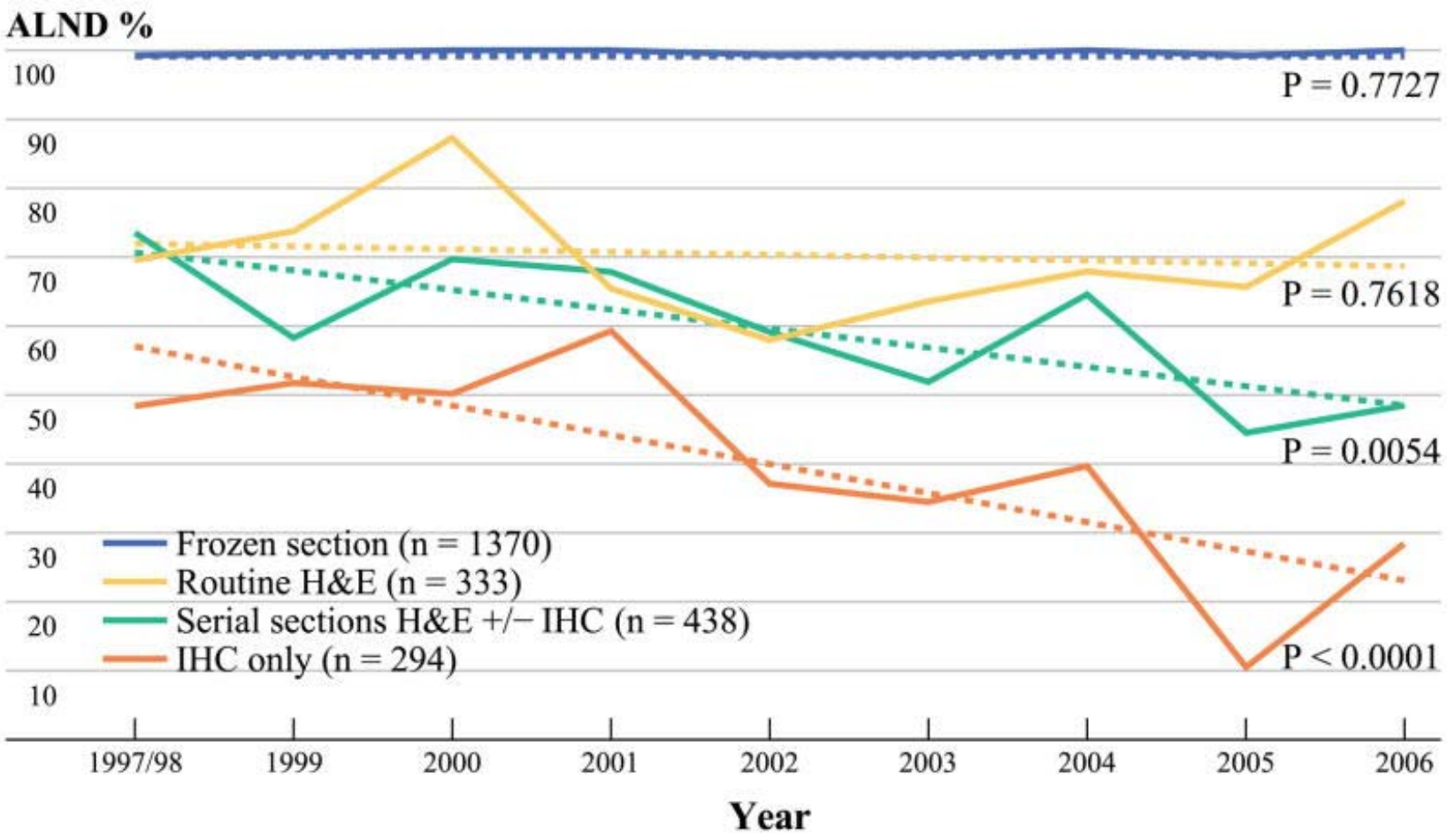
Ann Surg Oncol. 2012 January ; 19(1): 225–232. doi:10.1245/s10434-011-1823-z.

A 10-Year Trend Analysis of Sentinel Lymph Node Frozen Section and Completion Axillary Dissection for Breast Cancer: Are These Procedures Becoming Obsolete?

Walter P. Weber, MD[1,3], Mitchel Barry, MD[1], Michelle M. Stempel, MPH[1], Manuela J. Junqueira, MD[1], Anne A. Eaton, MS[2], Sujata M. Patil, PhD[2], Monica Morrow, MD[1], and **Hiram S. Cody III, MD[1]**

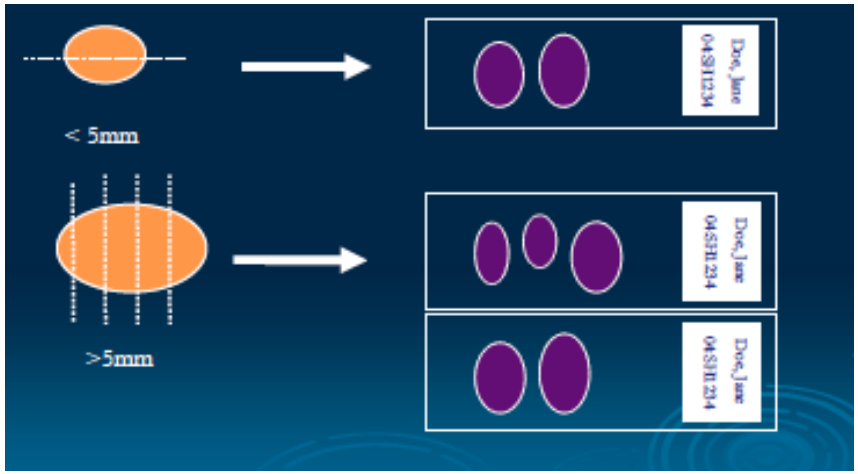


No. of all SLN procedures:	654	632	788	851	895	929	960	987	813

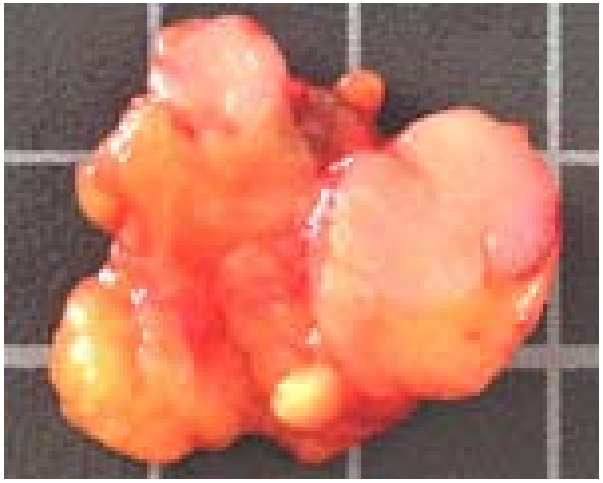

ALND %
100
90
80
70
60
50
40
30
20
10
P = 0.7727
P = 0.7618
P = 0.0054
P < 0.0001
Frozen section (n = 1370)
Routine H&E (n = 333)
Serial sections H&E +/− IHC (n = 438)
IHC only (n = 294)
1997/98
1999
2000
2001
2002
2003
2004
2005
2006
Year

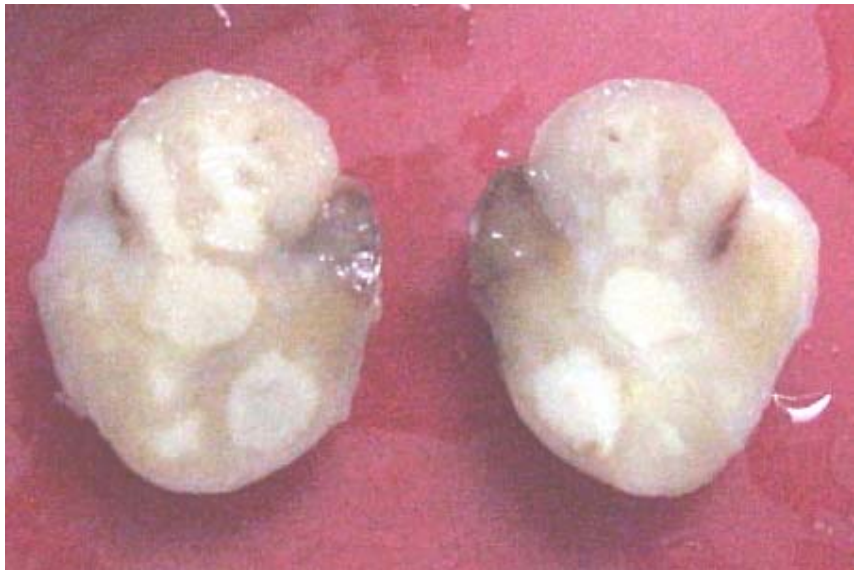
Sentinal Lenf Nodları
Rutin H&E- Dondurarak kesme

- Lenf nodlarını ayıkla
- Tek tek ölç, 2 mm aralıklarda uzun eksene paralel dilimle
- Her kesit yüzünü incele
- Metastaz seçiliyorsa çapını ölç ve kapsülle ilişkisini belirt



MAKROSKOPİ



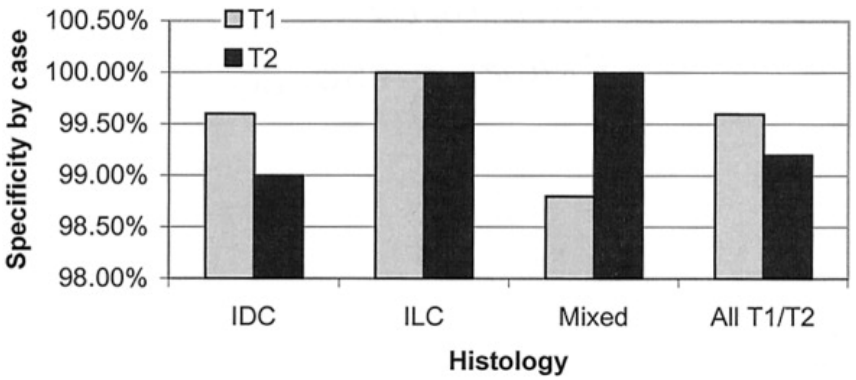


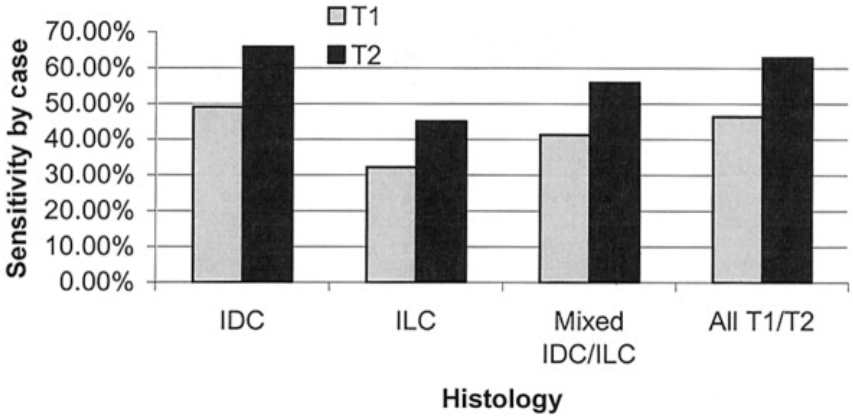
SİTOLOJİ

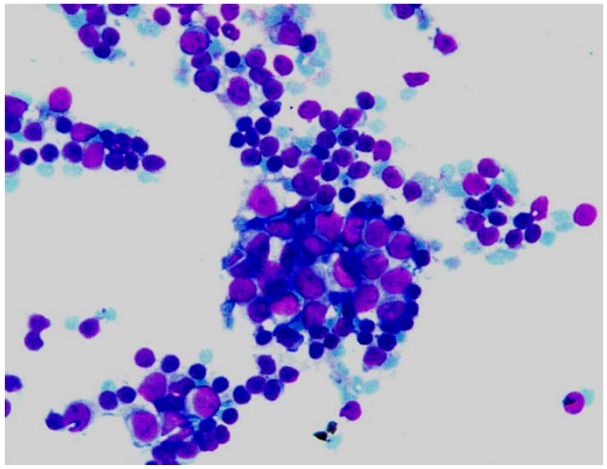
- İntraoperatif imprint sitolojisi gros olarak anormal lenf nodlarınında doğruluk oranı yüksek
- Gross negatif lenf nodlarında sensitivitesi düşük, ancak frozen kesitle izole tümör hücrelerini tümüyle kaybetme şansını ortadan kaldırır.(frozen kesit ile %50' ye kadar doku kaybı olabilir)

Hakam&Khin Clin Lab Med. 2005 Dec;25(4):795-807

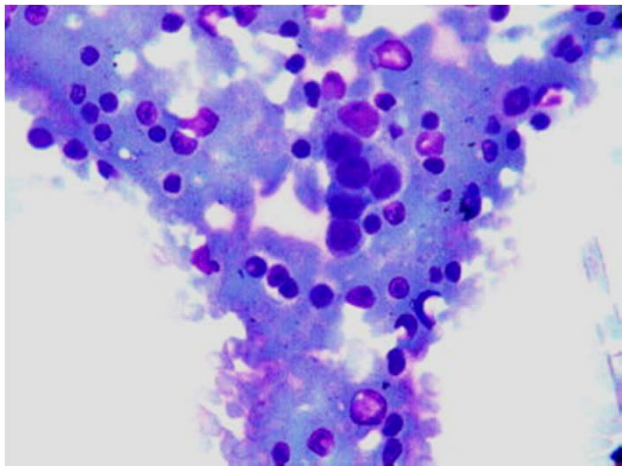
Sentinal lenf nodu-imprint sitoloji







İntraoperatif saptanan düşük dereceli



İntraoperatif (-), geri dönülüp bulunan hücreler

Cox C et al. Cancer. 2005;105(1):13-20

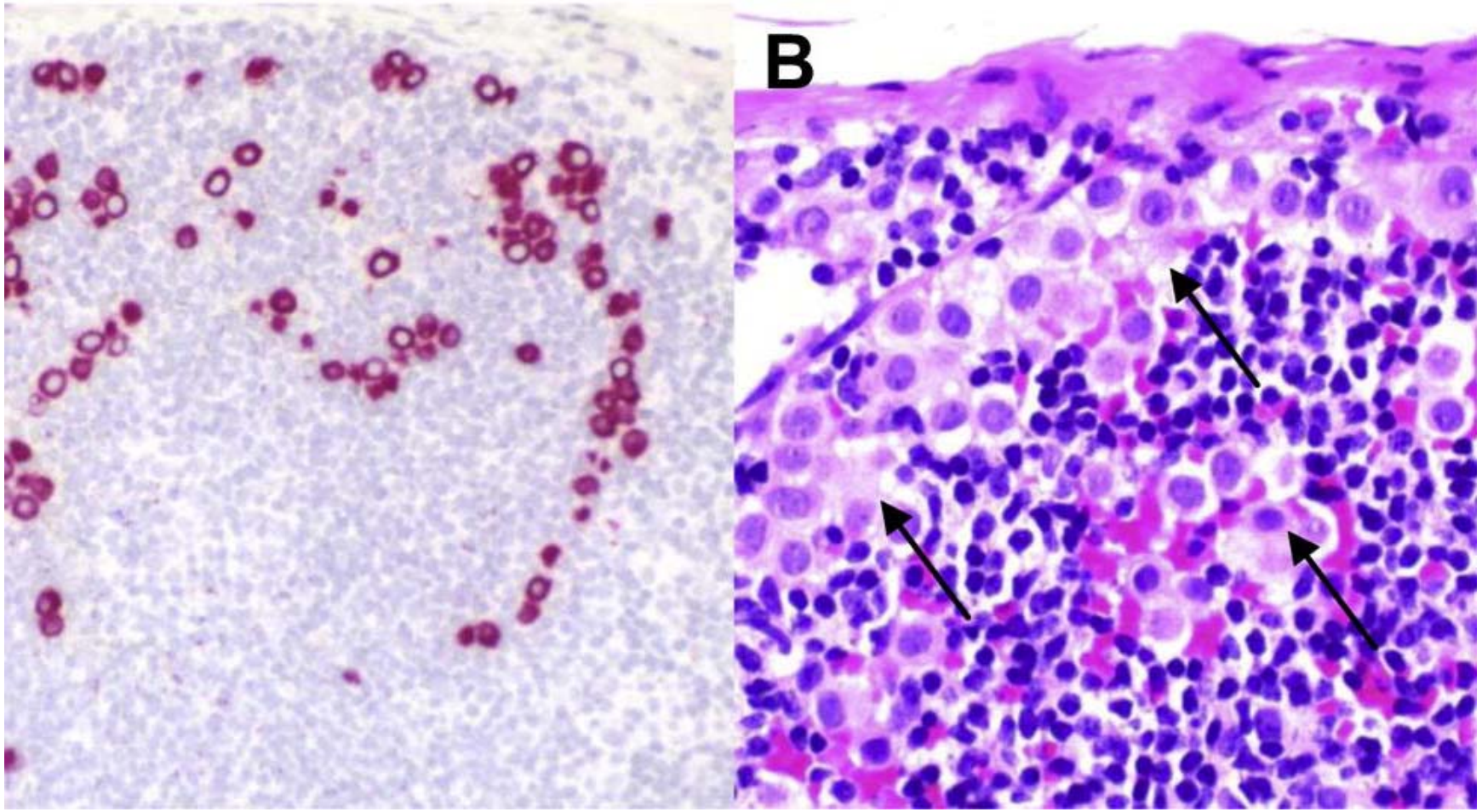
Table 1
Comparison of definitions of isolated tumour cells and micrometastases in the various staging classifications

Hermanek *et al.* [37]	Isolated tumour cells defined as single cells or small clusters not in contact with vessel wall; without extravasation or stromal reaction or proliferation.
UICC 6th edition [39]	Adopted the above: tumour cells in capsule or parenchyma = micrometastases, even if ≤0.2 mm in size; in vessels or sinuses ≤0.2 mm = isolated tumour cells or 0.2–2 mm = micrometastases; extranodal deposits, including afferent lymphatics and perinodal fat, regarded as non-nodal (pN0).
AJCC 6th edition [39]	Purely quantitative and not based on anatomical location: isolated tumour cells = ≤0.2 mm; micrometastases = 0.2–2 mm.
European Working Group for Breast Cancer Screening [40]	Extension of UICC definitions: • If multiple foci = measure largest focus; • Single cells, continuous clusters, or separated by only a few cells = one focus; • Single cells or discontinuous, evenly dispersed, in a defined part of the node = one focus; • Cells/clusters in a discontinuous manner and unevenly dispersed = one focus if distance between clusters is less than the size of the smallest cluster. If the distance between clusters is greater than the size of the smallest cluster = multiple foci.
Turner *et al.* [43]	Extension of AJCC definitions: Classification determined by size, not location or number of clusters. • Isolated tumour cells = any group of non-cohesive cells OR clusters <0.2 mm • Micrometastases = largest cohesive cluster 0.2–2 mm • Cells/clusters separated by a gap or by any benign cells regarded as separate, except when there is a desmoplastic stromal reaction causing the separation when interpret as one focus.
AJCC/UICC 7th editions [45,46]	Classification determined by size, not location. • Isolated tumour cells renamed 'isolated tumour cell clusters'; • Definition of micrometastases expanded to allow for single cell dispersed pattern or non-cohesive clusters; limit set at >200 cells per single nodal cross-section; • Isolated tumour cells = confluent cell clusters ≤0.2 mm OR single cells (≤200) • Micrometastases = confluent cell clusters 0.2–2 mm and/ or >200 cells.

AJCC, American Joint Committee on Cancer; UICC.

Clin Oncol (R Coll Radiol). 2013 Feb;25(2):80-92

- AJCC/UICC 7th editions
- Sınıflama lokalizayona değil boyuta göre yapılır
- ‘İzole tümör hücreleri’ terimi ‘izole tümör hücre kümeleri’ olarak değiştirildi
- •Mikrometastaz tanımına dağınık tek tek hücre veya koheziv olmayan kümeler de dahil edildi; limit ise her nod kesitinde >200 hücre olarak belirlendi
- •İzole tümör hücreleri= ≤0.2 mm boyutta hücre kümeleri ya da tek tek hücreler (≤200)
- •Micrometastaz = 0.2–2 mm hücre kümeleri ve/veya >200 cells.



- A sentinel lymph node containing metastatic invasive lobular carcinoma with a dispersed pattern. The cells are clearly seen on immunohistochemistry for cytokeratin AE1/AE3 (A). However, on close examination of the haematoxylin and eosin-stained slide (B) they are detectable (arrows). The cells extend over a total distance of 0.55 mm, but each individual cluster is <0.2 mm in size. This would have been called isolated tumour cells under the American Joint Committee on Cancer sixth edition guidelines, and micrometastasis under the UICC guidelines given the parenchymal location and total size. Under the seventh edition criteria it is called isolated tumour cells, as the total number of cells is less than 200.

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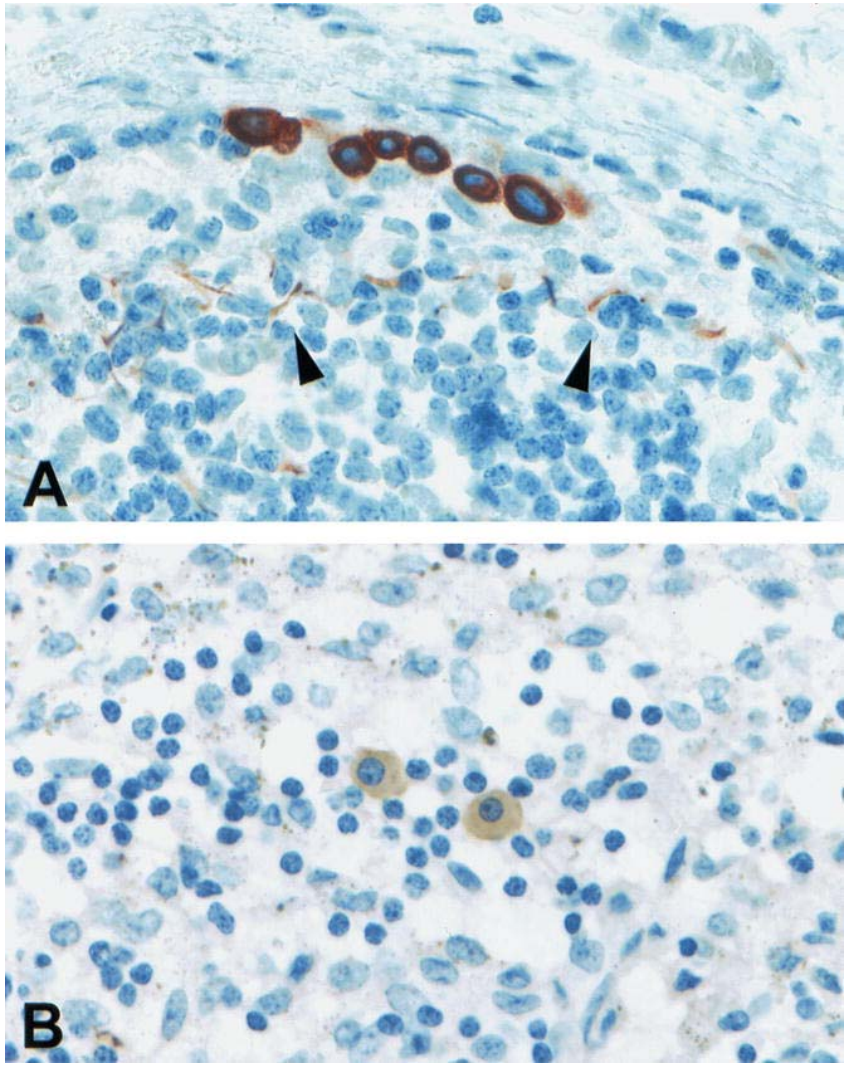
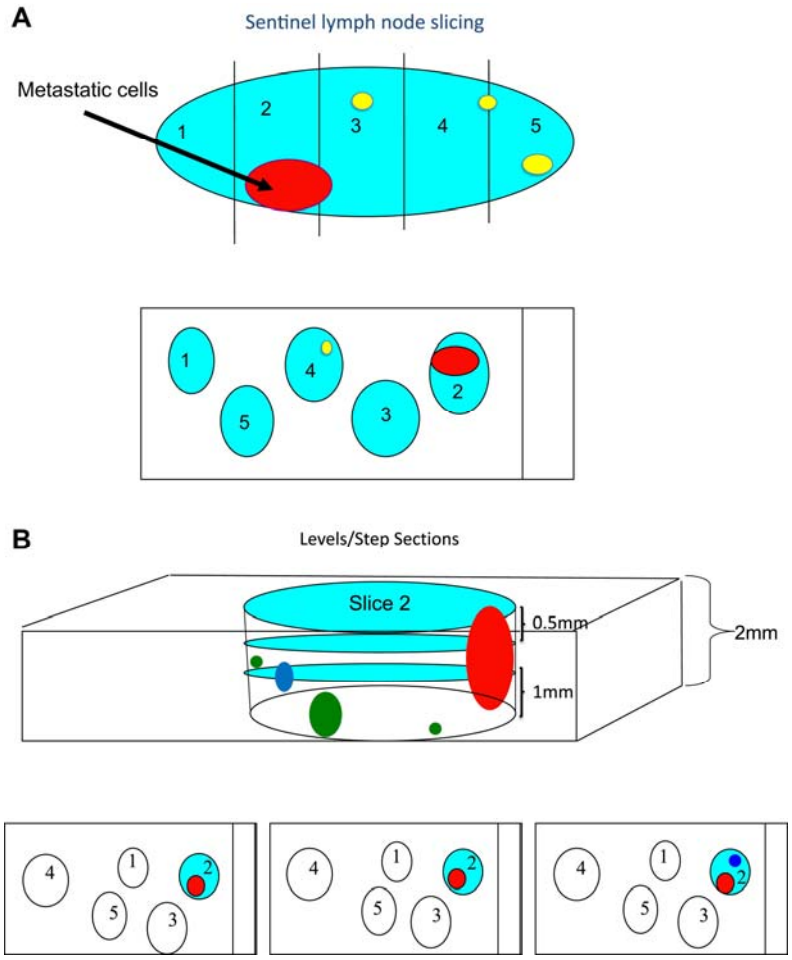
CK-Sentinal lenf nodu



CK



- (A) Slicing the sentinel lymph node at 2 mm intervals detects most macrometastases (red), but isolated tumour cells and micrometastases (yellow) will only be detected by chance.
- (B) Cutting two additional levels at 0.5 mm may detect further isolated tumour cells or micrometastases, but leaves 1 mm of the node unexamined so micrometastases up to 1 mm in size may be missed. If additional levels are performed, fewer levels at greater intervals are preferable as this minimises the thickness of the node that is unexamined.

Clin Oncol (R Coll Radiol). 2013 Feb;25(2):80-92

Reference	Type of study	Definition/question	Follow-up (years)	Clinical significance	Comment
[52]	Clinical trial – Z0010	Occult metastases by immunohistochemistry in SLN biopsy; found in 10.5% cases	6.3	Not significant – DFS and OS	
[56]	Pathology substudy of National Surgical Adjuvant Breast and Bowel Project B-32	Occult metastases by immunohistochemistry/ levels in SLN biopsy; found in 15.9% cases (11% isolated tumour cells)	7.9	• DFS hazard ratio = 1.31 (isolated tumour cells 1.18, pN1 1.38); • OS hazard ratio = 1.40 (isolated tumour cells 1.18, pN1 1.60).	Significant on multivariate analysis but effect small (1.2% difference in OS)

- Moleküler incelemelerde pozitif SLN sayısı anlamlı olarak artar, ancak bunun klinik önemi belirsiz ve sadece araştırma amaçlı kullanılmalıdır.

- Makroskopik örnekleme doğru yapılmışsa bir tam yüzey H&E kesit makrometastazları ve mikrometastazların çoğunu yakalar
- Rutin CK İHK sı gereksiz
- Patoloji raporunda:
- Metastatik lenf nodunun yeri
- Sayısı
- En büyük metastatik odağın boyutu
- Ekstrakapsüler uzanım

bulunmalıdır.