



EVALUATION OF LYMPH NODES & PATHOLOGIC EXAMINATION FOR BREAST CASES

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OBJECTIVES

- Review different methods of evaluating lymph nodes for breast cancer
- Review op reports/path report examples for coding
- Discussion on immunohistochemistry staining for evaluating lymph nodes for isolated tumor cells (ITC)
- Show path report examples for coding

LYMPH NODE EVALUATIONS

- Fine needle Aspiration (FNA) / core Biopsy
- Sentinel Lymph node (SLN)
- Sentinel Lymph nodes (SLNs)
- Sentinel Lymph node(s) + Axillary Lymph Node Dissection (SLN +ALND)
- Axillary Lymph node dissection
- See part 1, section 1 of the general rules for lymph nodes positive and lymph nodes examined

FINE NEEDLE ASPIRATION/CORE BIOPSY

- **Fine-needle aspiration biopsy** : doctor inserts a thin needle into a lymph node and removes a sample of cells.
- **Core needle biopsy**: doctor inserts a needle with a special tip and removes a sample of tissue about the size of a grain of rice.
- Both are Coded under data item "Scope of regional lymph node surgery"
- Use code 1 = biopsy or aspiration of lymph node
- Code even if results negative

SENTINEL LYMPH NODE (SLN) BIOPSY

- SLN procedure may identify a single SLN or multiple SLNs
- Whether there is 1 or more LNs designated as SLNs all are coded just as SLNs
- Coded under data item "Scope of regional lymph node surgery"
- Use code 2 = sentinel lymph node (SLN) biopsy
- Code even if results negative
- Do not code incidental nodes found by pathologist as an ALND.

EXAMPLE

- Op report: left breast simple mastectomy w/ SLN bx
- Path report:

Specimen A: sentinel lymph node #1: benign node.

Specimen B: left breast mastectomy: invasive ductal carcinoma, 1.5 cm in size, no lymph vascular invasion, no DCIS identified, single benign lymph node.

Synoptic report:

Total lymph nodes examined: 2

Sentinel lymph nodes: 1

Correct codes to enter:

Scope of regional LN surgery code = 2 LNs bx only (there was no ALND performed, only an incidental node attached to the breast specimen found by pathologist). **You don't want to capture this as SLN bx + ALND. It will skew your data and make it seem as your surgeons are performing more ALND than actually are performed.

CSLN = 000

LN examined = 2

AXILLARY LYMPH NODE DISSECTION (ALND)

- Sometimes an axillary lymph dissection may be performed without an initial sentinel lymph node evaluation
- This is coded under data item "scope of regional lymph node surgery"
- Use code 4 = when 1-3 lymph nodes are removed
- Use code 5 = when 4 or more lymph nodes are removed
- Coded even if lymph nodes are negative
- Do not code incidental lymph nodes found by pathologist as ALND

SENTINEL LYMPH NODE + AXILLARY LYMPH NODE DISSECTION (ALND)

- If the SLN is positive, an axillary dissection will be performed either during the same surgical event or even at a different surgical event
- This is coded under data item "scope of regional lymph node surgery"
- Use code 6 = when SLN bx & ALND performed during same surgical event
- Use code 7 = when SLN BX performed at one time & ALND performed at a later date (during a separate surgical event)
- Code even if results negative

FAILED SLN PROCEDURE

- There are times when a sentinel lymph node procedure fails, the blue dye fails to map to a lymph node. The surgeon may go on to do an ALND.
- If surgeon states SLN failed you still code as this was the intent of the surgeon.
- Use code 6 = when SLN fails and ALND performed during same surgical event.
- It is important to record that the SLN bx procedure was attempted but failed.

EXAMPLE

- OP report: right breast SLN bx, r axillary LN dissection & r breast lumpectomy: description of procedure: the blue dye was injected, no blue dye could be identified mapping to the nodes therefore we felt the SLN procedure had failed. We then proceeded with an axillary dissection.

- Path report:

Specimen A: right breast lumpectomy: invasive ductal carcinoma.

Specimen b: 15 axillary lymph nodes negative for carcinoma.

Correct Codes to enter:

Scope of regional LN surgery = code 6 = SLN bx (attempted & failed) + ALND.

Cs LN = 000

LN exam = 15

PATHOLOGIC EVALUATION OF LYMPH NODES

- Pathologist's will evaluate the sentinel lymph nodes using a sentinel lymph node protocol.
- This is routine H&E (hematoxylin & eosin) staining.
- When SLNs are examined by H&E staining only and determined to be negative Then SSF4 (Immunohistochemistry (IHC) of Regional Lymph Nodes)& SSF5 (Molecular (MOL) Studies of Regional Lymph Nodes)are coded 000.

IMMUNOHISTOCHEMISTRY (IHC) STUDIES ON LNS

- Immunohistochemistry (IHC) tests use antibodies to stain for proteins of interest in tissue specimens.
- The IHC test for metastatic breast cancer in lymph nodes uses antibodies to cytokeratin. Specific stains include **AE1, AE3, AE1/3, MNF116 and CAM5.2**
- Alternate names include: **cytokeratin (HC) staining, pankeratin (IHC) staining, immunocytochemistry, immunochemistry**
- If IHC performed it will be listed on the path report either in an addendum or a comment.

SUMMARY FOR CODING SSF4

- IHC staining not performed = 000
- IHC staining performed and negative = 001
- IHC staining performed and positive with tumor cell clusters not more than 0.2 mm = 002
- IHC staining performed and positive with size of tumor cell clusters not mentioned or stated as pn0(i+) with no further info = 009

COLLABORATIVE STAGE NOTES ABOVE SSF4

- Note 1: [Isolated tumor cells \(ITCs\)](#) are defined as single tumor cells or small clusters not greater than 0.2 millimeter (mm), usually detected by immunohistochemistry (IHC), hematoxylin and eosin stains (H and E) (see CS Lymph Nodes code 050), or molecular (MOL) methods (Reverse Transcription Polymerase Chain Reaction, RT-PCR) (see [CS Site-Specific Factor 5](#)). ITCs do not usually show evidence of malignant activity (e.g., proliferation or stromal reaction.)
- Note 2: When CS Lymph Nodes is coded 000, use codes 000-009 only to report results of IHC. Otherwise code 987 in this field.
- Note 3: If it is unstated whether or not tests are done for IHC, assume they are not done.
- Note 4: If the record states N0(i+) and no other information, code to 009.

PATH REPORT #1

INTERPRETATION:

SPECIMEN A: BREAST, LEFT, MASTECTOMY:

1. INVASIVE DUCTAL CARCINOMA (MULTIFOCAL), MODERATELY DIFFERENTIATED (GRADE 2).
2. HIGH-GRADE DUCTAL CARCINOMA IN-SITU.
3. SEE SYNOPTIC REPORT AND COMMENT.

SPECIMEN B: LYMPH NODES, LEFT AXILLA, LYMPHADENECTOMY:

1. ELEVEN LYMPH NODES examined and negative for metastatic carcinoma.
2. SEE SYNOPTIC REPORT AND COMMENT.

PATH REPORT EXAMPLE #1

Synoptic report:

Lymph Node Summary:

Total number of nodes examined: 11

Total number of sentinel nodes examined: 0

number of nodes with macrometastases: 0

Number of nodes with micrometastases: 0

Number of nodes with isolated tumor cells: 1

PATH REPORT EXAMPLE #1

Comment:

Immunohistochemical staining for smooth muscle myosin and p63 (blocks A6, A8, A9, A12) demonstrate retained myosin and p63 staining in areas of in-situ carcinoma and loss of staining in areas of invasive carcinoma, confirming the above cited diagnosis. Immunostaining for smooth muscle myosin (A17) shows positive myoepithelial staining, confirming the absence of an invasive component in the area of interest. Immunostaining for smooth muscle myosin (A21) shows loss of myosin staining, confirming the presence of invasive carcinoma. **Immunostaining for pankeratin (B4) shows positivity of a single focus of tumor cells within a lymph node section, confirming the presence of isolated tumor cell metastasis.**

PATH REPORT EXAMPLE #1

As stated in the comment, IHC was performed on both specimens A (breast tumor) & B (lymph nodes)

CS codes:

CS LN 000 = ITCs detected by IHC methods only per path.

SSF4 code 009 = LNs negative on routine H&E, IHC studies performed and positive for ITCs size of tumor cells not stated.

PATH REPORT EXAMPLE #2

Interpretation:

Specimen a: sentinel lymph node: 2 benign sentinel lymph nodes. Sentinel node protocol performed.

Specimen c: axillary lymph nodes: 6 benign lymph nodes.

Synoptic report:

Lymph Node Summary:

Total number of nodes examined: 8

Total number of sentinel nodes examined: 2

number of nodes with macrometastases: 0

Number of nodes with micrometastases: 0

Number of nodes with isolated tumor cells: 0

PATH REPORT EXAMPLE #2

- SLNs were negative = 2 nodes (examined by routine H&E)
- 6 axillary LNs were negative (examined by routine H&E).
- NO COMMENT regarding IHC staining performed.
- CS codes

CS LN 000 = no LN involvement per path.

SSF4 000 = LNs negative on routine H&E, IHC studies not performed.

Scope of regional LN surgery 6 = Sentinel LN bx and 4 or more regional LN removed at the same time.

SUMMARY

- Read OP reports to determine exactly what procedure was performed to evaluate the lymph nodes (SLN BX only, SLN bx attempted but failed, SLN + ALND or just ALND) and code appropriate code under data item "scope of regional LN surgery".
- Review path reports for addendum/comment to identify if IHC studies were performed on lymph nodes and code appropriate codes in data items CS LN & SSF4.
- Use reference manuals:
 - Collaborative staging manual, part I, section II, site specific instructions & notes above schemas.
 - The Fords manual
 - Cpdms.net web help on the Kentucky Cancer Registry website

ANY QUESTIONS ?





THANK YOU !

- Contact info

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