Link : <https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf>

Link patient : https://www.nccn.org/patients/guidelines/content/PDF/breast-invasive-patient.pdf

1st diagnosis:

Note : The notation "DCIS Tis, N0, M0" represents the staging and classification of Ductal Carcinoma In Situ (DCIS), a type of non-invasive breast cancer. This notation is a part of the TNM staging system, a widely used system to describe the extent of cancer based on three key components:

1. T (Tumor):Describes the size and extent of the primary tumor.

In the context of DCIS:

- Tis (T in situ) indicates that the cancer is non-invasive, confined within the milk ducts (in situ).

2. N (Node):Describes the involvement of nearby lymph nodes.

In the context of DCIS:

- N0 indicates that there is no spread to nearby lymph nodes.

3. M (Metastasis):Describes whether the cancer has spread to distant parts of the body.

In the context of DCIS:

- M0 indicates no evidence of distant metastasis.

Therefore, "DCIS Tis, N0, M0" specifically signifies Ductal Carcinoma In Situ that is non-invasive, hasn't spread to nearby lymph nodes, and hasn't metastasized to distant parts of the body.

**Rules :**

If DCIS Tis, N0, M0" specifically signifies Ductal Carcinoma In Situ is non-invasive, hasn't spread to nearby lymph nodes, and hasn't metastasized to distant parts of the body.

1. Rule 1: Rule for Diagnostic Bilateral Mammogram

- IF History and physical exam is performed

- THEN Perform a diagnostic bilateral mammogram.

2. Rule 2: Rule for Pathology Review

- IF Diagnostic bilateral mammogram is performed

- THEN Perform a pathology review.

3. Rule 3: Rule for Determining ER Status

- IF Pathology review is completed

- THEN Determine the tumor estrogen receptor (ER) status.

4. Rule 4: Rule for Genetic Counseling

- IF ER status is determined and the patient is at risk of hereditary breast cancer

- THEN Provide genetic counseling.

5. Rule 5: Rule for Breast MRI (if indicated)

- IF Breast MRI is indicated (as mentioned in the context)

- THEN Perform a breast MRI based on clinical evaluation.

6. Rule 6: Rule for Treatment Selection

- IF Breast MRI suggests breast-conserving surgery (BCS)

- THEN Perform breast-conserving surgery without lymph node surgery.

- ELSE IF Breast MRI suggests total mastectomy

- THEN Perform total mastectomy (with or without sentinel lymph node biopsy (SLNB)), with optional reconstruction.

7. Rule 7: Rule for Whole Breast Radiation Therapy (WBRT)

- IF Breast-conserving surgery is performed

- THEN Administer whole breast radiation therapy with or without boost to the tumor bed, or consider accelerated partial breast irradiation/partial breast radiation.

8. Rule 8: Rule for Post-surgical Treatment (DCIS-2)

- IF Whole breast radiation therapy is administered

- THEN Refer to the appropriate post-surgical treatment guidelines for DCIS-2.

Thank you for providing the post-surgical treatment guidelines for DCIS-2. Below are the updated rules incorporating these guidelines into the existing rules:

9. Rule 9: Rule for Risk Reduction Therapy (Post-surgery - DCIS-2)

- IF BCS is performed and patient has ER-positive DCIS

- THEN Consider endocrine therapy for 5 years:

- IF Treated with BCS and RTm

- THEN Consider endocrine therapy (category 1)

- IF Treated with excision alone

- THEN Consider endocrine therapy (category 1)

10. Rule 10: Rule for Endocrine Therapy (Post-surgery - DCIS-2)

- IF Considered for endocrine therapy

- THEN Administer endocrine therapy based on patient characteristics:

- IF Premenopausal

- THEN Prescribe Tamoxifenm,o

- IF Postmenopausal

- THEN Prescribe Tamoxifenm,o or aromatase inhibitor (consider aromatase inhibitor especially for patients <60 years or with concerns for thromboembolism)

11. Rule 11: Rule for Risk Reduction Therapy (Contralateral Breast)

- IF Post-surgery, provide counseling regarding risk reduction for contralateral breast.

12. Rule 12: Rule for Post-surgical Treatment Surveillance/Follow-up (DCIS-2)

- IF Post-surgery (BCS or mastectomy)

- THEN Conduct regular surveillance and follow-up:

- Interval history and physical exam every 6–12 months for 5 years, then annually.

- Mammogram every 12 months (first mammogram 6 months after initial surgery).

**Redone rules :**

If DCIS Tis,N0,M0 cancer which indicates " represents the staging and classification of Ductal Carcinoma In Situ (DCIS), a type of non-invasive breast cancer

Then perform

History and physical exam • Diagnostic bilateral mammogram • Pathology reviewa • Determination of tumor estrogen receptor (ER) status • Genetic counseling for patients at riskb of hereditary breast cancer • Breast MRIc,d as indicated

And perform either Breats conserving surgery or total masectomy

If breats Breast-conserving surgerye (BCS) without lymph node surgery

Then

Whole breast radiation therapy (WBRT) (category 1) with or without boost to tumor bedg,h,i,j or Accelerated partial breast irradiation/partial breast radiation (APBI/PBI)g,h,i,j or No RTg,h,i,j (category 2B)

And See Postsurgical treatment (DCIS-2)

Else

If Total mastectomy with or without sentinel lymph node biopsy (SLNB)f,h + reconstruction (optional)

Then See Postsurgical treatment (DCIS-2)

Here's the rule based on your description:

Rule 1:

IF DCIS is diagnosed as Tis, N0, M0 cancer, which represents the staging and classification of Ductal Carcinoma In Situ (DCIS), a type of non-invasive breast cancer

THEN perform the treatmet following actions:

- Conduct a History and physical exam

- Perform a diagnostic bilateral mammogram

- Review pathology

- Determine tumor estrogen receptor (ER) status

- Offer genetic counseling for patients at risk of hereditary breast cancer

- Consider a Breast MRI as indicated

AND perform either of the following surgical options:

- Breast-conserving surgery (BCS)

IF BCS is chosen without lymph node surgery

THEN provide one of the following treatments:

- Whole breast radiation therapy (WBRT) (category 1) with or without a boost to the tumor bed

- Accelerated partial breast irradiation/partial breast radiation (APBI/PBI)

- No radiation therapy (RT) (category 2B)

AND refer to the Postsurgical treatment guidelines for DCIS-2

OR

- Total mastectomy with or without sentinel lymph node biopsy (SLNB) + reconstruction (optional)

AND refer to the Postsurgical treatment guidelines for DCIS-2

2nd set of diagnosis

1. Rule 13: Workup for Non-Metastatic Invasive Breast Cancer

- IF Diagnosis is non-metastatic (M0) invasive breast cancer

- THEN Conduct the following workup:

- Perform history and physical exam

- Perform a diagnostic bilateral mammogram

- Perform ultrasound as necessary

- Consider breast MRI (optional), especially for mammographically occult tumors

- Conduct pathology review

- Determine tumor estrogen/progesterone receptor (ER/PR) status and HER2 status

- Provide genetic counseling and testing if applicable

- Address fertility and sexual health concerns as appropriate

- Perform a pregnancy test in all patients of childbearing potential

- Assess for distress

- Consider additional imaging studies only in the presence of signs and symptoms of metastatic disease

2. Rule 14: Clinical Staging for Non-Metastatic Invasive Breast Cancer

- IF Clinical staging is determined as cT0, cN+, M0

- THEN Follow NCCN guidelines for occult Primary (NCCn guidelines)

3. Rule 15: Clinical Staging for Non-Metastatic Invasive Breast Cancer

- IF Clinical staging is determined as cT1-T3, ≥cN0, M0

- THEN Determine the approach for locoregional treatment based on considering or not considering preoperative systemic therapy:

- IF Not considering preoperative systemic therapy:

- THEN Follow BCS followed by RT (BINV-2) or Mastectomy followed by RT (BINV-3)

- IF Considering preoperative systemic therapy:

- THEN Follow additional workup prior to preoperative systemic therapy (BINV-12)

4. Rule 16: Diagnosis of Metastatic Invasive Breast Cancer

- IF Diagnosis is metastatic (M1) invasive breast cancer or stage IV (M1) disease or recurrent disease

- THEN Conduct the workup for recurrent or stage IV (M1) disease (BINV-18)

5. Rule 17: Diagnosis of Inflammatory Breast Cancer (IBC)

- IF Diagnosis is a clinical pathologic diagnosis of inflammatory breast cancer (IBC)

- THEN Follow the workup for IBC (IBC-1)

These rules represent the diagnosis and workup processes for non-metastatic invasive breast cancer, subsequent staging, and the appropriate steps to be taken based on the clinical stage and diagnosis.

--- till sheet 15

Redone rules

If non Non-metastatic (M0) invasive breast cancer

then

History and physical exam • Imaging: Diagnostic bilateral mammogram Ultrasound as necessary Breast MRIb (optional), with special consideration for mammographically occult tumors • Pathology reviewc • Determination of tumor estrogen/ progesterone receptor (ER/PR) status and HER2 statusd • Genetic counseling and testing if patient is at riske for hereditary breast cancer, has triplenegative breast cancer (TNBC) (at any age), or is a candidate for adjuvant olaparib • Address fertility and sexual health concerns as appropriatef • Pregnancy test in all patients of childbearing potentialf (If pregnant, see PREG-1) • Assess for distressg • Consider additional imaging studies only in the presence of signs and symptoms of metastatic diseaseh (see BINV-18)

Due to non Non-metastatic (M0) invasive breast cancer

If from imaging and testing cT0,cN+,M0 -> Yes

then See NCCN guidelines for Occult Primary

else from imaging and testing if cT1–T3, ≥cN0,M0

then see disease See criteria for preoperative systemic therapy (BINV-M)

After checking the criteria if

Not considering preoperative systemic therapy

Then

Locoregional treatmenti • See BCS Followed by RT (BINV-2) or • See Mastectomy Followed by RT (BINV-3)

After checking the criteria if Considering preoperative systemic therapy

Tehn See Additional Workup Prior to Preoperative Systemic Therapy (BINV-12)

If Metastatic (M1) invasive breast cancer and Stage IV (M1) or Recurrent disease

Tehn See Workup for Recurrent or Stage IV (M1) Disease (BINV-18)

If Clinical pathologic diagnosis of inflammatory breast cancer (IBC)

Tehn See Workup for IBC (IBC-1)

BINV – 2

BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

If Negative axillary nodes:

(

WBRT ± boost to tumor bed, and consider comprehensive regional nodal irradiation (RNI) in patients with central/medial tumors, pT3 tumors, or pT2 tumors and one of the following high-risk features: grade 3, extensive lymphovascular invasion (LVI), or ER-negative. or Consider APBI/PBI in selected low-risk patients (category 1)o,p or Consider omitting breast irradiation in patients ≥70 y of age with ER-positive, cN0, pT1 tumors who receive adjuvant endocrine therapy (category 1)

SEE BINV4

)

Else if 1–3 positive axillary nodes

(

Meets ALL of the following criteria: • cT1–T2, cN0 • No preoperative chemotherapy • 1–2 positive sentinel lymph node (SLNs) • WBRT planned

If

(

Yes:

WBRT ± boost (use of comprehensive RNI with or without intentional inclusion of axilla is at the discretion of the radiation oncologist) (category 1)

See BIN 4

)

Else

If NO

(

WBRT with inclusion of any portion of the undissected axilla at risk ± boosto to tumor bed (category 1). Strongly consider comprehensive RNI.

See BINV -4

)

Else if ≥4 positiven axillary nodes

{

WBRT ± boosto to tumor bed (category 1) + comprehensive RNI with inclusion of any portion of the undissected axilla at risk (category 1

See BINV4

)

Rule 18:

IF BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

THEN IF Negative axillary nodes

(

WBRT ± boost to tumor bed, and consider comprehensive regional nodal irradiation (RNI) in patients with central/medial tumors, pT3 tumors, or pT2 tumors and one of the following high-risk features: grade 3, extensive lymphovascular invasion (LVI), or ER-negative. or Consider APBI/PBI in selected low-risk patients (category 1)o,p or Consider omitting breast irradiation in patients ≥70 y of age with ER-positive, cN0, pT1 tumors who receive adjuvant endocrine therapy (category 1)

SEE BINV4

)

Rule 19:

IF BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

THEN IF 1–3 positive axillary nodes

THEN IF Meets ALL of the following criteria: • cT1–T2, cN0 • No preoperative chemotherapy • 1–2 positive sentinel lymph node (SLNs) • WBRT planned

THEN

(

WBRT ± boost (use of comprehensive RNI with or without intentional inclusion of axilla is at the discretion of the radiation oncologist) (category 1)

See BIN 4

)

ELSE IF does not Meets ALL of the following criteria: • cT1–T2, cN0 • No preoperative chemotherapy • 1–2 positive sentinel lymph node (SLNs) • WBRT planned

(

WBRT with inclusion of any portion of the undissected axilla at risk ± boosto to tumor bed (category 1). Strongly consider comprehensive RNI.

See BINV -4

)

Rule 20:

IF BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

THEN IF ≥4 positive axillary nodes

(

WBRT ± boosto to tumor bed (category 1) + comprehensive RNI with inclusion of any portion of the undissected axilla at risk (category 1

See BINV4

)

Redone rules

Rule 1

If BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

And if Negative axillary nodes

Then

WBRT ± boosto to tumor bed, and consider comprehensive regional nodal irradiation (RNI) in patients with central/medial tumors, pT3 tumors, or pT2 tumors and one of the following high-risk features: grade 3, extensive lymphovascular invasion (LVI), or ER-negative. or Consider APBI/PBI in selected low-risk patients (category 1)o,p or Consider omitting breast irradiation in patients ≥70 y of age with ER-positive, cN0, pT1 tumors who receive adjuvant endocrine therapy (category 1

And see BINV 4

Rule 2

Else If BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

And if 1–3 positive axillary nodes

And

Meets ALL of the following criteria: • cT1–T2, cN0 • No preoperative chemotherapy • 1–2 positive sentinel lymph node (SLNs) • WBRT planned

Then

WBRT ± boost (use of comprehensive RNI with or without intentional inclusion of axilla is at the discretion of the radiation oncologist) (category 1)

And SEE BINV4

Rule 3

Else If BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

And if 1–3 positive axillary nodes

And

Does not Meet ALL of the following criteria: • cT1–T2, cN0 • No preoperative chemotherapy • 1–2 positive sentinel lymph node (SLNs) • WBRT planned

Then

WBRT with inclusion of any portion of the undissected axilla at risk ± boosto to tumor bed (category 1). Strongly consider comprehensive RNI.

And SEE BINV4

Rule 4

Else If BCS with surgical axillary staging (category 1)i,j,k,l ± oncoplastic reconstruction

And if ≥4 positiven axillary nodes

Then

WBRT ± boosto to tumor bed (category 1) + comprehensive RNI with inclusion of any portion of the undissected axilla at risk (category 1)

And SEE BINV4

BINV – 3:

Total mastectomy with surgical axillary stagingi,j,k (category 1) ± reconstruction:

If :

Negative axillary nodes and tumor ≤5 cm and margins ≥1 mm –

Then No RT and See BINV 4

Else if :

Negative axillary nodes and tumor ≤5 cm and negative margins but -> Consider RTo to chest wall. For patients with additional high-risk features,t consider addition of comprehensive RNI (including any portion of the undissected axilla at risk) -> See Binv 4

Else if :

Negative axillary nodes and tumor >5 cm -> Consider RTo to chest wall ± comprehensive RNI (including any portion of the undissected axilla at risk). - > See BIN 4

Else if :

1–3 positive axillary nodess - > Strongly consider RTo to chest wall + comprehensive RNI (including any portion of the undissected axilla at risk). - > See Bin V 4

Else if :

≥4 positive axillary nodesn -> RTo to chest wall + comprehensive RNI (including any portion of the undissected axilla at risk) (category 1) -> See BINV -4

Else if :

Margins positive. -> Re-excision to negative margins is preferred. If not feasible, then strongly consider RTo to chest wall ± comprehensive RNI (including any portion of the undissected axilla at risk). - > See BINV -4

Rule 21:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

And IF negative axillary nodes and tumor ≤5 cm and margins ≥1 mm,

THEN no radiation therapy (RT) needed.

See BINV 4

Rule 22:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

And IF negative axillary nodes and tumor ≤5 cm and negative margins,

THEN consider RT to chest wall.

For patients with additional high-risk features, consider addition of comprehensive regional nodal irradiation (RNI) (including any portion of the undissected axilla at risk).

See BINV 4

Rule 23:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

And IF negative axillary nodes and tumor >5 cm,

THEN consider RT to chest wall ± comprehensive RNI (including any portion of the undissected axilla at risk).

See BIN 4

Rule 24:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

and IF 1–3 positive axillary nodes,

THEN strongly consider RT to chest wall + comprehensive RNI (including any portion of the undissected axilla at risk).

See Bin V 4

Rule 25:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

and IF ≥4 positive axillary nodes,

THEN RT to chest wall + comprehensive RNI (including any portion of the undissected axilla at risk) is recommended (category 1).

See BINV -4

Rule 26:

IF undergoing total mastectomy with surgical axillary staging i,j,k (category 1) ± reconstruction,

and IF margins are positive,

THEN re-excision to achieve negative margins is preferred.

If not feasible, strongly consider RT to chest wall ± comprehensive RNI (including any portion of the undissected axilla at risk).

See BINV -4

**BINV 4:**

If • Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplastic

And

ER-positivey,z and/or PR-positivey,z

And

HER2-positive

See BINV -5

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And ER-positivey,z and/or PR-positivey,z

And

HER2-negativey

And

Postmenopausalaa

See BINV -6

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And ER-positivey,z and/or PR-positivey,z

And

HER2-negativey

AND

Premenopausal

And

pT1–3 AND pN0

See BINV-7

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And ER-positivey,z and/or PR-positivey,z

And

HER2-negativey

AND

Premenopausal

And

pT1–3 AND pN+

See BINV -8

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

ER-negative and PR-negativey,z

And

HER2-positivey

See BINV – 9

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

ER-negative and PR-negativey,z

And

HER2-negativey

See BINV-10

Else if

Favorable histologic type:w • Pure tubular • Pure mucinous • Pure cribriform • Encapsulated or solid papillary carcinoma (SPC)x • Adenoid cystic and other salivary carcinomas • Secretory carcinoma • Rare low-grade forms of metaplastic carcinoma

AND

ER-positivez and/or PR-positivez or ER-negative and PR-negative

See Favourable Histologies (BINV-11)

Rule 27:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-positivey,z and/or PR-positivey,z

AND

HER2-positive,

THEN See BINV -5

Rule 28:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-positivey,z and/or PR-positivey,z

AND

HER2-negativey

AND

Postmenopausalaa,

THEN See BINV -6

Rule 29:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-positivey,z and/or PR-positivey,z

AND

HER2-negativey

AND

Premenopausal

AND

pT1–3 AND pN0,

THEN See BINV-7

Rule 30:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-positivey,z and/or PR-positivey,z

AND

HER2-negativey

AND

Premenopausal

AND

pT1–3 AND pN+,

THEN See BINV -8

Rule 31:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-negative and PR-negativey,z

AND

HER2-positivey,

THEN See BINV – 9

Rule 32:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

ER-negative and PR-negativey,z

AND

HER2-negativey,

THEN See BINV-10

Rule 33:

IF tumor is of histologic type:

- Favorable histologic type:w

- Pure tubular

- Pure mucinous

- Pure cribriform

- Encapsulated or solid papillary carcinoma (SPC)x

- Adenoid cystic and other salivary carcinomas

- Secretory carcinoma

- Rare low-grade forms of metaplastic carcinoma

AND

ER-positivez and/or PR-positivez OR ER-negative and PR-negative,

THEN See Favourable Histologies (BINV-11)

**BINV – 5**

If.

Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor ≤0.5 cm

And

pN0

Then

Consider adjuvant endocrine therapybb ± adjuvant chemotherapya,bb,cc with trastuzumabdd,ee (category 2B)

See Follow up BINV-17

Else

If.

Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor ≤0.5 cm

And

pN1mi

Then

Adjuvant endocrine therapybb,ff or Adjuvant chemotherapya,bb,cc with trastuzumabdd and endocrine therapybb,f

See Follow up BINV – 17

Else

Else

If.

Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor 0.6–1.0 cm

Then

i Adjuvant endocrine therapybb,ff or Adjuvant chemotherapya,bb,cc with trastuzumabdd and endocrine therapybb

See Follow up BINV – 17

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor >1 cm

Then

Adjuvant chemotherapya,bb,cc with trastuzumab (category 1) and endocrine therapybb,

See Follow up BINV – 17

Else if

Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pN+ (≥1 ipsilateral metastases >2 mm)

Then

Adjuvant chemotherapya,bb,cc with trastuzumabdd (category 1) and endocrine therapybb,ff,gg or Adjuvant chemotherapya,bb,cc with trastuzumabdd + pertuzumabhh (category 1, preferred) and endocrine therapybb,ff,gg

See Follow up BINV – 17

Rule 34:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN0

THEN

Consider adjuvant endocrine therapybb ± adjuvant chemotherapya,bb,cc with trastuzumabdd,ee (category 2B)

See Follow up BINV-17

Rule 35:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN1mi

THEN

Adjuvant endocrine therapybb,ff or Adjuvant chemotherapya,bb,cc with trastuzumabdd and endocrine therapybb,f

See Follow up BINV – 17

Rule 36:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor 0.6–1.0 cm

THEN

Adjuvant endocrine therapybb,ff or Adjuvant chemotherapya,bb,cc with trastuzumabdd and endocrine therapybb

See Follow up BINV – 17

Rule 37:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor >1 cm

THEN

Adjuvant chemotherapya,bb,cc with trastuzumab (category 1) and endocrine therapybb

See Follow up BINV – 17

Rule 38:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pN+ (≥1 ipsilateral metastases >2 mm)

THEN

Adjuvant chemotherapya,bb,cc with trastuzumabdd (category 1) and endocrine therapybb,ff,gg or Adjuvant chemotherapya,bb,cc with trastuzumabdd + pertuzumabhh (category 1, preferred) and endocrine therapybb,ff,gg

See Follow up BINV – 17

**BINV – 6**

If • Ductal/NSTu • Lobular • Mixed • Micropapillary

And

Tumor ≤0.5 cm and pN0

Then

Consider adjuvant endocrine therapy (category 2B)bb

And see BINV-17

Else if • Ductal/NSTu • Lobular • Mixed • Micropapillary

And

Tumor >0.5 cm or pN1mi (≤2 mm axillary node metastases) or pN1 (1–3 positive nodes)

Then

Strongly consider 21-gene RTPCR assay if candidate for chemotherapy (category 1)jj,kk

[

If Not done

Then

Adjuvant chemotherapya,cc followed by endocrine therapybb,ff (category 1) or Adjuvant endocrine therapybb,

And see BINV-17

Else if Recurrence score <26

Then

Adjuvant endocrine therapy (category 1)bb,ff

And see BINV-17

Else if

Recurrence score ≥26

Then

Adjuvant chemotherapya,cc,bb followed by endocrine therapybb,ff (category 1) Adjuvant chemotherapya,bb,cc,ll followed by endocrine therapybb,ff (category 1)

And see BINV-17

]

Else if • Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pN2/pN3 (≥4 ipsilateral metastases >2 mm)ii

then

Adjuvant chemotherapya,bb,cc,ll followed by endocrine therapybb,ff (category 1)

And

see BINV-17

Rule 39

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- Tumor ≤0.5 cm and pN0

THEN

Consider adjuvant endocrine therapy (category 2B)bb

AND

See BINV-17

Rule 40:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- Tumor >0.5 cm or pN1mi (≤2 mm axillary node metastases) or pN1 (1–3 positive nodes)

THEN

Strongly consider 21-gene RTPCR assay if candidate for chemotherapy (category 1)jj,kk,

[

IF 21-gene RTPCR assay not done

THEN

Adjuvant chemotherapya,cc followed by endocrine therapybb,ff (category 1) or Adjuvant endocrine therapybb,

AND

See BINV-17

ELSE IF

21-gene RTPCR Recurrence score <26

THEN

Adjuvant endocrine therapy (category 1)bb,ff

AND

See BINV-17

ELSE IF

21-gene RTPCR Recurrence score ≥26

THEN

Adjuvant chemotherapya,cc,bb followed by endocrine therapybb,ff (category 1) Adjuvant chemotherapya,bb,cc,ll followed by endocrine therapybb,ff (category 1)

AND

See BINV-17

]

Rule 41:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pN2/pN3 (≥4 ipsilateral metastases >2 mm)ii

THEN

Adjuvant chemotherapya,bb,cc,ll followed by endocrine therapybb,ff (category 1)

AND

See BINV-17

**BINV – 7**

If

• Ductal/NSTu • Lobular • Mixed • Micropapillary

And

Tumor ≤0.5 cm and pN0

Then

Consider adjuvant endocrine therapy (category 2B)

And See BINV-17

Else if

Tumor >0.5 cm and pN0

Then

Strongly consider 21-gene RT-PCR assay if candidate for chemotherapy (category 1)jj,k

[

If RT-PCR assay Not Done

Then

Adjuvant chemotherapycc followed by endocrine therapybb,ff (category 1) or Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,f

And See BINV-17

Else if RT-PCR assay Recurrence score ≤15

Then

Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,

And See BINV-17

Eslse if RT-PCR assay Recurrence score 16–25

Then

Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,ff,mm or Adjuvant chemotherapycc followed by endocrine therapybb,ff,

And See BINV-17

Else if RT-PCR Recurrence score ≥26

Then

Adjuvant chemotherapycc followed by endocrine therapybb,f

]

Sure, here are the rules based on the provided information, starting from Rule 42:

Rule 42:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- Tumor ≤0.5 cm and pN0

THEN

Consider adjuvant endocrine therapy (category 2B)

AND

See BINV-17

Rule 43:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- Tumor >0.5 cm and pN0

THEN

Strongly consider 21-gene RT-PCR assay if candidate for chemotherapy (category 1)jj,k. Refer to BINV-7a

BINV 7a:

Rule 1:

IF 21-gene RT-PCR assay Not Done

THEN

Adjuvant chemotherapycc followed by endocrine therapybb,ff (category 1) or Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,f

AND

See BINV-17

Rule 2:

ELSE IF

RT-PCR assay Recurrence score ≤15

THEN

Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,

AND

See BINV-17

Rule 3:

ELSE IF

RT-PCR assay Recurrence score 16–25

THEN

Adjuvant endocrine therapybb,ff ± ovarian suppression/ablationbb,ff,mm or Adjuvant chemotherapycc followed by endocrine therapybb,ff,

AND

See BINV-17

Rule 4:

ELSE IF

RT-PCR Recurrence score ≥26

THEN

Adjuvant chemotherapycc followed by endocrine therapybb,f

BINV – 8

If Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pN1mi (≤2 mm axillary node metastasis) or pN1 (1–3 positive nodes)

Then Assess to determine if candidate for chemotherapy

[

If

Not a candidate for chemotherapy

Then

Adjuvant endocrine therapy + ovarian suppression/ablationb

And see Binv-17

Else if candidate for chemotherapy consider gene expression assay to assess prognosis

Then

Adjuvant chemotherapybb,cc followed by endocrine therapybb,ff,mm or Adjuvant endocrine therapy + ovarian suppression/ablation

And See Binv-17

]

Else if Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pN2/pN3 (≥4 ipsilateral metastases >2 mm)nn

then.

Adjuvant chemotherapybb,cc followed by endocrine therapybb,ff,ll (category 1)

And see Binv-17

Rule 44:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pN1mi (≤2 mm axillary node metastasis) or pN1 (1–3 positive nodes)

THEN

Assess to determine if candidate for chemotherapy. Refer to BINV 8a

BINV8a

Rule1

IF

Not a candidate for chemotherapy

THEN

Adjuvant endocrine therapy + ovarian suppression/ablationb

AND

See Binv-17

Rule2

ELSE IF candidate for chemotherapy

THEN

Consider gene expression assay to assess prognosis

THEN

Adjuvant chemotherapybb,cc followed by endocrine therapybb,ff,mm or Adjuvant endocrine therapy + ovarian suppression/ablation

AND

See Binv-17

]

Rule3:

Rule 45:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pN2/pN3 (≥4 ipsilateral metastases >2 mm)nn

THEN

Adjuvant chemotherapybb,cc followed by endocrine therapybb,ff,ll (category 1)

AND

See Binv-17

**BINV -9**

If Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor ≤0.5 cm

And

pN0

Then Consider adjuvant chemotherapya,pp with trastuzumabdd,ee (category 2B)

And. See BINV 17

Else if Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor ≤0.5 cm

And

pN1mi

Then

Consider adjuvant chemotherapya,pp with trastuzumabdd,e

And See BINV 17

Else if

If Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

Tumor 0.6–1.0 cm

Then

Consider adjuvant chemotherapya,pp with trastuzumabd

And. See BINV 17

Else if Else if Ductal/NSTu • Lobular • Mixed • Micropapillary

And

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and

if Tumor >1 cm

then

Adjuvant chemotherapya,pp with trastuzumabff (category 1)

And see BINV 17

Else if

If Ductal/NSTu • Lobular • Mixed • Micropapillary

And

If pN+ (≥1 ipsilateral metastases >2 mm)

Then

Adjuvant chemotherapya,pp with trastuzumabff (category 1) or Adjuvant chemotherapya,pp with trastuzumabff + pertuzumab

And See Binv 17

Rule 45:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN0

THEN

Consider adjuvant chemotherapya,pp with trastuzumabdd,ee (category 2B)

AND

See BINV 17

Rule 46:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN1mi

THEN

Consider adjuvant chemotherapya,pp with trastuzumabdd,e

AND

See BINV 17

Rule 47:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor 0.6–1.0 cm

THEN

Consider adjuvant chemotherapya,pp with trastuzumabd

AND

See BINV 17

Rule 48:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor >1 cm

THEN

Adjuvant chemotherapya,pp with trastuzumabff (category 1)

AND

See BINV 17

Rule 49:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

AND

- pN+ (≥1 ipsilateral metastases >2 mm)

THEN

Adjuvant chemotherapya,pp with trastuzumabff (category 1) or Adjuvant chemotherapya,pp with trastuzumabff + pertuzumab

AND

See Binv 17

**BINV 10**

If

• Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

If pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

And if

Tumor ≤0.5 cm

And if pN0

Then

No adjuvant therapyqq

And see BINV 17

Else if If

• Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

If pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

And if

Tumor ≤0.5 cm

And

If pN1mi

Then

Consider adjuvant chemotherapya,c

And see BINV 17

Else if

If

• Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

If pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

And if

Tumor 0.6–1.0 cm

Then

Consider adjuvant chemotherapya,cc,

And see BINV 17

Else if

If

• Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

If pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

And if

Tumor >1 cm

Then

Adjuvant chemotherapy

And See BINV 17

Else if

• Ductal/NSTu • Lobular • Mixed • Micropapillary • Metaplasticv

And

If

pN+ (≥1 ipsilateral metastases >2 mm)

then

Adjuvant chemotherapya,cc

And See BINv 17

Rule 50:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN0

THEN

No adjuvant therapyqq

AND

See BINV 17

Rule 51:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≤0.5 cm

AND

- pN1mi

THEN

Consider adjuvant chemotherapya,c

AND

See BINV 17

Rule 52:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor 0.6–1.0 cm

THEN

Consider adjuvant chemotherapya,cc

AND

See BINV 17

Rule 53:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor >1 cm

THEN

Adjuvant chemotherapy

AND

See BINV 17

Rule 54:

IF tumor is of histologic type:

- Ductal/NSTu

- Lobular

- Mixed

- Micropapillary

- Metaplasticv

AND

- pN+ (≥1 ipsilateral metastases >2 mm)

THEN

Adjuvant chemotherapya,cc

AND

See BINV 17

**BINV 11**

If

• Pure tubular • Pure mucinous • Pure cribriform • Encapsulated or solid papillary carcinoma

And if

ER-positive and/or PR-positive, HER2-negativey

And if

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and <Tumor 1cm

then

Consider adjuvant endocrine therapybb for risk reduction

And See BINV 17

Else if

• Pure tubular • Pure mucinous • Pure cribriform • Encapsulated or solid papillary carcinoma

And if

ER-positive and/or PR-positive, HER2-negativey

And if

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and Tumor 1–2.9 cm

then

Consider adjuvant endocrine therapybb

And see BIN v 17

Else if

• Pure tubular • Pure mucinous • Pure cribriform • Encapsulated or solid papillary carcinoma

And if

ER-positive and/or PR-positive, HER2-negativey

And if

pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

and Tumor ≥3 cm

then

Adjuvant endocrine therapy

And

See BINV 17

Else if

• Pure tubular • Pure mucinous • Pure cribriform • Encapsulated or solid papillary carcinoma

And if

ER-positive and/or PR-positive, HER2-negativey

And if

pN+ (≥1 ipsilateral metastases >2 mm)

then

Adjuvant endocrine therapybb,ff ± adjuvant chemotherapya,bb,cc

And See BINV 17

Else if

Adenoid cystic and other salivary carcinomas • Secretory carcinoma • Rare lowgrade forms of metaplastic carcinoma

And if

ER-negative and PR-negative, HER2-negativey

Then

Limited available data support local therapy only with consideration for systemic/targeted therapies only in pN+ disease

And. See BINV 17

Rule 55:

IF tumor is of histologic type:

- Pure tubular

- Pure mucinous

- Pure cribriform

- Encapsulated or solid papillary carcinoma

AND

- ER-positive and/or PR-positive, HER2-negativey

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor <1 cm

THEN

Consider adjuvant endocrine therapybb for risk reduction

AND

See BINV 17

Rule 56:

IF tumor is of histologic type:

- Pure tubular

- Pure mucinous

- Pure cribriform

- Encapsulated or solid papillary carcinoma

AND

- ER-positive and/or PR-positive, HER2-negativey

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor 1–2.9 cm

THEN

Consider adjuvant endocrine therapybb

AND

See BINV 17

Rule 57:

IF tumor is of histologic type:

- Pure tubular

- Pure mucinous

- Pure cribriform

- Encapsulated or solid papillary carcinoma

AND

- ER-positive and/or PR-positive, HER2-negativey

AND

- pT1, pT2, or pT3; and pN0 or pN1mi (≤2 mm axillary node metastasis)

AND

- Tumor ≥3 cm

THEN

Adjuvant endocrine therapy

AND

See BINV 17

Rule 58:

IF tumor is of histologic type:

- Pure tubular

- Pure mucinous

- Pure cribriform

- Encapsulated or solid papillary carcinoma

AND

- ER-positive and/or PR-positive, HER2-negativey

AND

- pN+ (≥1 ipsilateral metastases >2 mm)

THEN

Adjuvant endocrine therapybb,ff ± adjuvant chemotherapya,bb,cc

AND

See BINV 17

Rule 59:

IF tumor is of histologic type:

- Adenoid cystic and other salivary carcinomas

- Secretory carcinoma

- Rare low-grade forms of metaplastic carcinoma

AND

- ER-negative and PR-negative, HER2-negativey

THEN

Limited available data support local therapy only with consideration for systemic/targeted therapies only in pN+ disease

AND

See BINV 17

**BINV 12**

If

c≥T2tt or cN+ and M0 or cT1c, cN0 HER2-positive disease or cT1c, cN0 TNBC (For preoperative systemic therapy criteria, see BINV-M 1) rr

Then

Axillary assessment with exam Consider ultrasound Percutaneous biopsy of suspicious nodesss • CBC • Comprehensive metabolic panel, including liver function tests and alkaline phosphatase Additional tests to consider as clinically indicated • Chest diagnostic CT ± contrast • Abdominal ± pelvic diagnostic CT with contrast or MRI with contrast • Bone scan or sodium fluoride PET/CT (category 2B) • FDG PET/CT (useful in certain circumstances)uu • Breast MRIb (optional), with special consideration for mammographically occult tumors, if not previously done

And

(

For operable breast cancers: See Breast and Axillary Evaluation Prior to Preoperative Systemic Therapy (BINV-13)

Or

For inoperable breast cancers: See Preoperative Systemic Therapy (BINV-15)

)

Rule 60:

IF the patient has:

- cT2 or higher (c≥T2tt) tumor

- cN+ (lymph node positive)

- M0 (no distant metastasis)

- OR cT1 HER2-positive disease (cT1c, cN0 HER2-positive)

- OR cT1 TNBC (cT1c, cN0 TNBC)

THEN

Perform the following assessments:

- Axillary assessment with exam

- Consider ultrasound

- Perform percutaneous biopsy of suspicious nodesss

- Conduct CBC

- Conduct comprehensive metabolic panel, including liver function tests and alkaline phosphatase

- Perform additional tests as clinically indicated:

- Chest diagnostic CT ± contrast

- Abdominal ± pelvic diagnostic CT with contrast or MRI with contrast

- Bone scan or sodium fluoride PET/CT (category 2B)

- FDG PET/CT (useful in certain circumstances)

- Optional: Breast MRIb, with special consideration for mammographically occult tumors, if not previously done

Refer to BINV 12a

BINV 12a

Rule 1:

If For operable breast cancers

Then : Refer to Breast and Axillary Evaluation Prior to Preoperative Systemic Therapy (BINV-13)

Rule 2:

If inoperable breast cancers

then

Refer to Preoperative Systemic Therapy (BINV-15)

**BINV 13**

If

Prior to preoperative systemic therapy, perform: • Core biopsy of breast with placement of imagedetectable clips or marker(s), if not previously performed, should be performed prior to preoperative therapy to demarcate the tumor bed • Axillary imaging with ultrasound or MRI (if not previously done) and • Biopsy + clip placement recommended of suspicious and/or clinically positive axillary lymph nodes, if not previously done

Then

Preoperative systemic therapy based on HR and HER2 status

And

See Surgical Treatment and Adjuvant Therapy After Preoperative Systemic Therapy (BINV-14)

Rule 61:

IF prior to preoperative systemic therapy, the following procedures have not been performed:

- Core biopsy of the breast with placement of image-detectable clips or marker(s) to demarcate the tumor bed

- Axillary imaging with ultrasound or MRI

- Biopsy + clip placement of suspicious and/or clinically positive axillary lymph nodes

THEN

Perform the following actions:

- Perform preoperative systemic therapy based on HR (Hormone Receptor) and HER2 (Human Epidermal Growth Factor Receptor 2) status AND See Surgical Treatment and Adjuvant Therapy After Preoperative Systemic Therapy (BINV-14)

**BINV 14**

IF BCS possible

Then

BCS with surgical axillary stagingj (see BINV-D) ± oncoplastic reconstruction

And

Adjuvant systemic therapyrr,xx (see BINV-16) + post-lumpectomy adjuvant RTo • cN+ and ypN0: Adjuvant RT to the whole breast ± boost to the tumor bed;yy and strongly consider comprehensive RNI with inclusion of any portion of the undissected axilla at risk. • Any ypN+: Adjuvant RT to the whole breast ± boost to the tumor bed;yy and comprehensive RNI with inclusion of any portion of the undissected axilla at risk. • Any cN0, ypN0: Adjuvant RT to whole breast ± boost to tumor bed

Else if

BCS not possible

Then

Mastectomy and surgical axillary stagingj (see BINV-D) + reconstruction (optional)

And

Adjuvant systemic therapyrr,xx (see BINV-16) + post-mastectomy adjuvant RTo • cN+ and ypN0: Strongly consider RT to the chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk. • Any ypN+: RT is indicated to the chest wall + comprehensive RNI with inclusion of any portion of the undissected axilla at risk. or Adjuvant systemic therapyrr,ww (see BINV-16) without adjuvant RT for any cN0,ypN0 if axilla was assessed by SLNB or axillary node dissection

Rule 62:

IF BCS (Breast-Conserving Surgery) is possible

THEN

Perform the following actions:

- Perform BCS with surgical axillary stagingj (see BINV-D) ± oncoplastic reconstruction

AND

- Administer adjuvant systemic therapyrr,xx (see BINV-16)

- Administer post-lumpectomy adjuvant RTo (Radiotherapy):

- For cN+ and ypN0: Adjuvant RT to the whole breast ± boost to the tumor bed;yy and strongly consider comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

- For any ypN+: Adjuvant RT to the whole breast ± boost to the tumor bed;yy and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

- For any cN0, ypN0: Adjuvant RT to the whole breast ± boost to tumor bed

Rule 63:

IF BCS is not possible

THEN

Perform the following actions:

- Perform mastectomy and surgical axillary stagingj (see BINV-D) + reconstruction (optional)

AND

- Administer adjuvant systemic therapyrr,xx (see BINV-16)

- Administer post-mastectomy adjuvant RTo (Radiotherapy):

- For cN+ and ypN0: Strongly consider RT to the chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

- For any ypN+: RT is indicated to the chest wall + comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

- Administer adjuvant systemic therapyrr,ww (see BINV-16) without adjuvant RT for any cN0, ypN0 if axilla was assessed by SLNB or axillary node dissection

**BINV 15**

If

Preoperative systemic therapyqq

And

If Response to preoperative systemic therapyvv and tumor is operable

then

Mastectomy and surgical axillary stagingj + reconstruction (optional)q or BCS with surgical axillary stagingj,zz ± oncoplastic reconstruction

And

Adjuvant systemic therapyxx (see BINV-16) and Adjuvant RTo to the whole breast or chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

Else if

Preoperative systemic therapyqq

And if

No response to preoperative systemic therapyvv and/or tumor remains inoperable

Then Consider additional systemic therapy and/or preoperative radiation

And If

Response to preoperative systemic therapyvv and tumor is operable

Tehn

Mastectomy and surgical axillary stagingj + reconstruction (optional)q or BCS with surgical axillary stagingj,zz ± oncoplastic reconstruction

And

Adjuvant systemic therapyxx (see BINV-16) and Adjuvant RTo to the whole breast or chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

Else if

Preoperative systemic therapyqq

And if

No response to preoperative systemic therapyvv and/or tumor remains inoperable

And if

No response to preoperative systemic therapyvv and/or tumor remains inoperable

Then Consider additional systemic therapy and/or preoperative radiation

And if

No response to preoperative systemic therapyvv and tumor is inoperable

Then Individualize treatment

Here are the rules starting from Rule 64:

Rule 64:

IF Preoperative systemic therapyqq

AND IF Response to preoperative systemic therapyvv and tumor is operable

THEN Perform the following actions:

- Perform Mastectomy and surgical axillary stagingj + reconstruction (optional)q

- OR Perform BCS with surgical axillary stagingj,zz ± oncoplastic reconstruction

AND

- Administer Adjuvant systemic therapyxx (see BINV-16)

- Administer Adjuvant RTo (Radiotherapy) to the whole breast or chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

Rule 65:

IF Preoperative systemic therapyqq

AND IF No response to preoperative systemic therapyvv and/or tumor remains inoperable

THEN Consider additional systemic therapy and/or preoperative radiation

Rule 66:

IF Preoperative systemic therapyqq

AND IF Response to preoperative systemic therapyvv and tumor is operable

THEN Perform the following actions:

- Perform Mastectomy and surgical axillary stagingj + reconstruction (optional)q

- OR Perform BCS with surgical axillary stagingj,zz ± oncoplastic reconstruction

AND

- Administer Adjuvant systemic therapyxx (see BINV-16)

- Administer Adjuvant RTo to the whole breast or chest wall and comprehensive RNI with inclusion of any portion of the undissected axilla at risk.

Rule 67:

IF Preoperative systemic therapyqq

AND IF No response to preoperative systemic therapyvv and/or tumor remains inoperable

AND IF No response to preoperative systemic therapyvv and/or tumor remains inoperable

THEN Consider additional systemic therapy and/or preoperative radiation

Rule 68:

IF No response to preoperative systemic therapyvv and tumor is inoperable

THEN Individualize treatment