

7ÈME SÉMINAIRE INTERRÉGIONAL DE PRISE EN
CHARGE DU CANCER DU SEIN

Vendredi 5 avril 2024
Collectivité européenne d'Alsace

7^{ÈME}
SÉMINAIRE
INTERRÉGIONAL
de prise en charge
du cancer du sein

5 avril 2024

Actualité

« Désescalade axillaire si N+, dès 2024? »

Dr Susie BROUSSE

Chirurgienne Sénologue, CRLCC Eugène Marquis, Rennes

Peut-on surseoir au curage axillaire en cas de carcinome mammaire invasif avec envahissement ganglionnaire ?



Revue de la littérature

Peut-on surseoir au curage axillaire en cas de carcinome mammaire invasif avec envahissement ganglionnaire ?

Can we avoid axillary lymph node dissection in patients with node positive invasive breast carcinoma?

2 Susie Brousse^{a,*}, Clémentine Lafond^{a,b}, Martin Schmitt^c, Sophie Guillermet^a, Sébastien Molière^{d,e}, Carole Mathelin^f

Travail du groupe de sénologie
du CNGOF

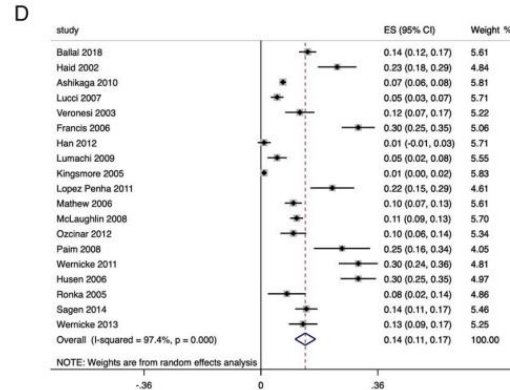
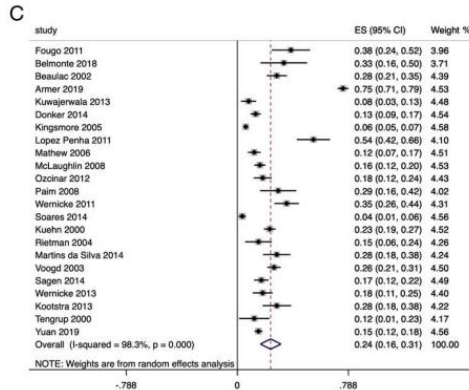
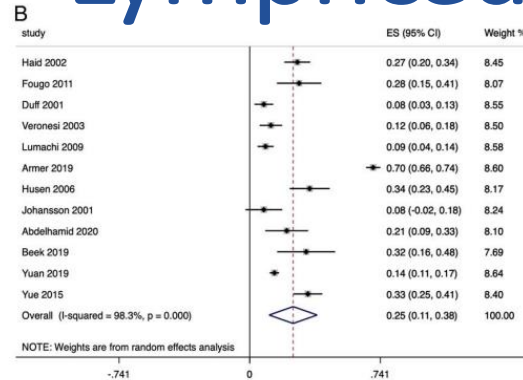
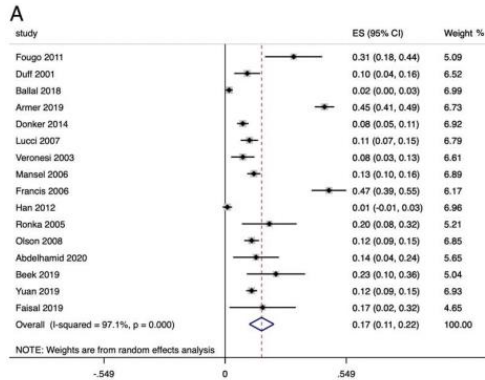


Pourquoi?

Morbidité connue à court et long terme !



Lymphoedème

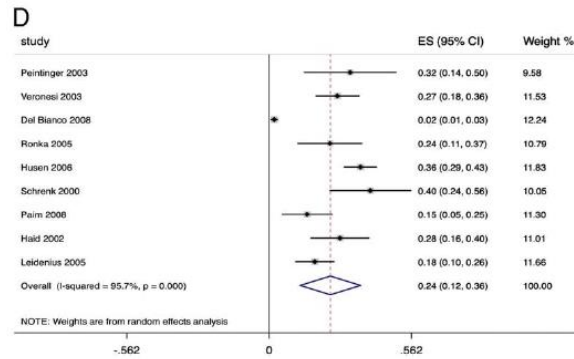
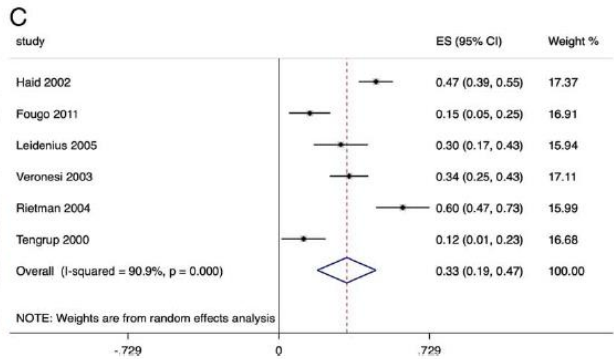
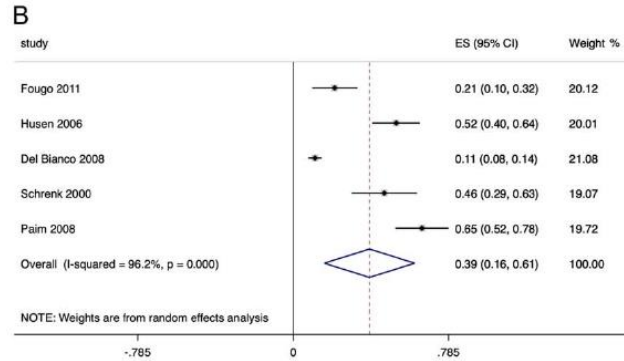
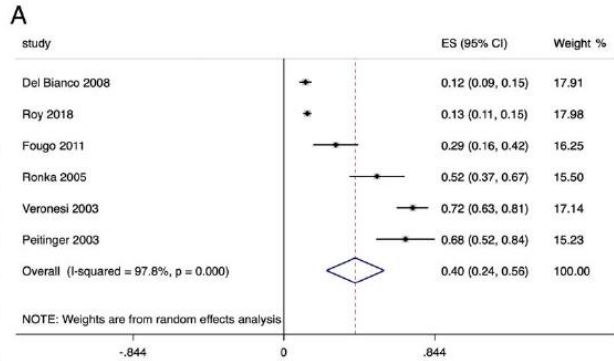


- Prévalence LSS vs CA : différence de 13,7% (95% IC : 10.5–16.8, $P < 0.005$)

- 7,5 vs 16,5% <12mois
- 3,7 vs 24,6% entre 12 et 24mois
- 5,9 vs 23,6% >24mois

- Pas de différence si CA initial ou secondaire
- Effet cumulatif si CA + RT

Douleur



- Prévalence LSS vs CA : **différence de 24,2%** (95% CI: 12.1–36.3, $I^2=95.7\%$, $P<0.0005$)

- 21,7 vs 40% <12mois
- 21,7 vs 38,5% entre 12 et 24mois
- 21,7 vs 32,9% >24mois

Autres complications

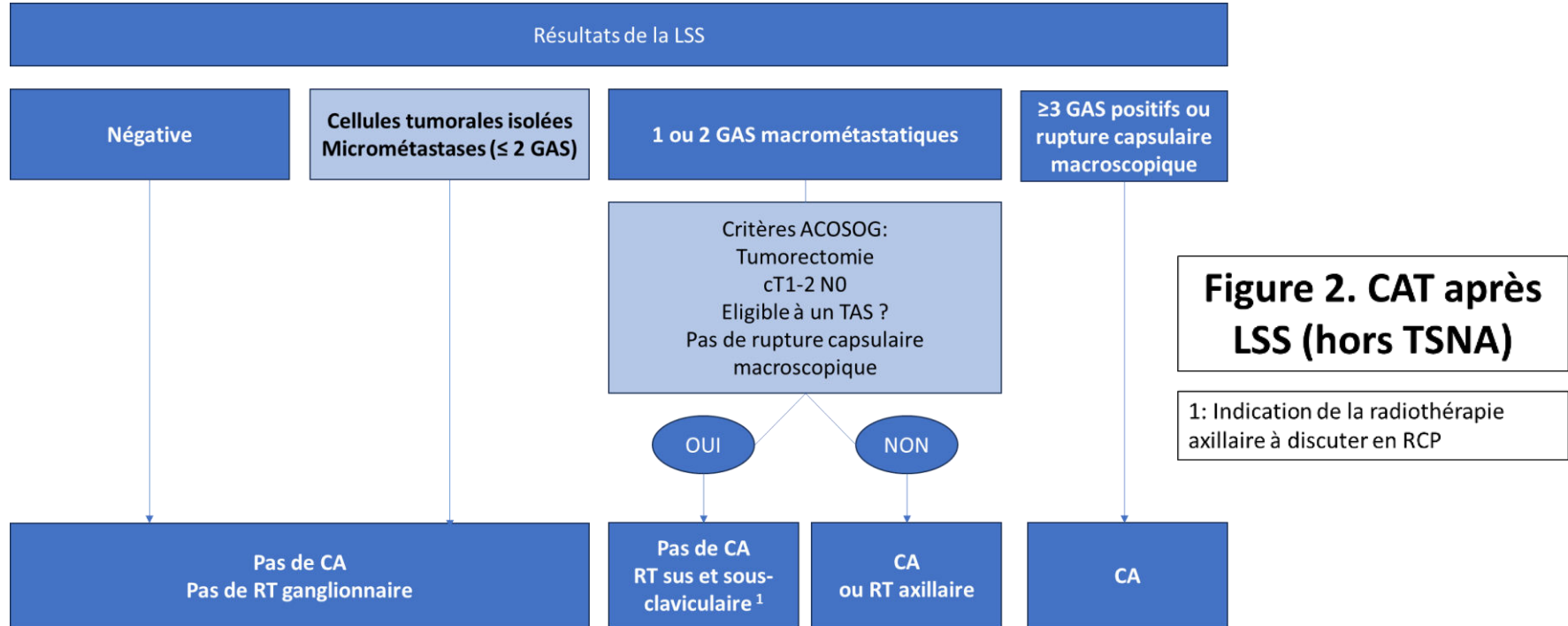
- Réduction de la mobilité
 - Prévalence LSS vs CA : 17.1% vs 29.8%
 - Effet **cumulatif** si CA + RT
- Réduction de la force
 - Prévalence LSS vs CA : 15.2% vs 30.9%
 - **Persistance** après 5 à 7ans
- Diminution des scores de qualité de vie
 - **Global HRQoL** scores post-op (EORTC-QLQ-C30) **LSS vs CA** : **+15% vs +6%**

En chirurgie initiale

Peut-on éviter un CA?



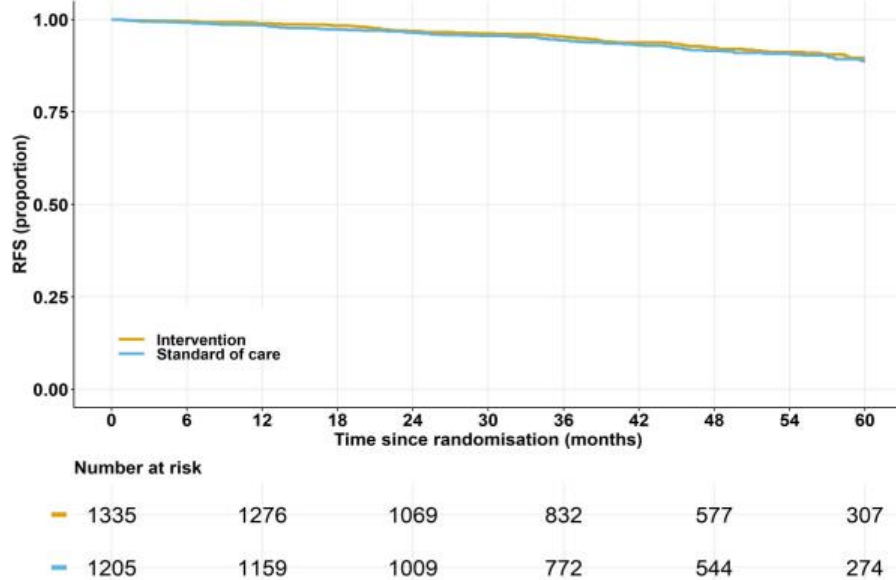
Si cN0 → Oui
mais pN1 → Oui si <3 N+



SABCS 2023

Recurrence-Free Survival

San Antonio Breast Cancer Symposium®
December 5-9, 2023 | San Antonio, TX

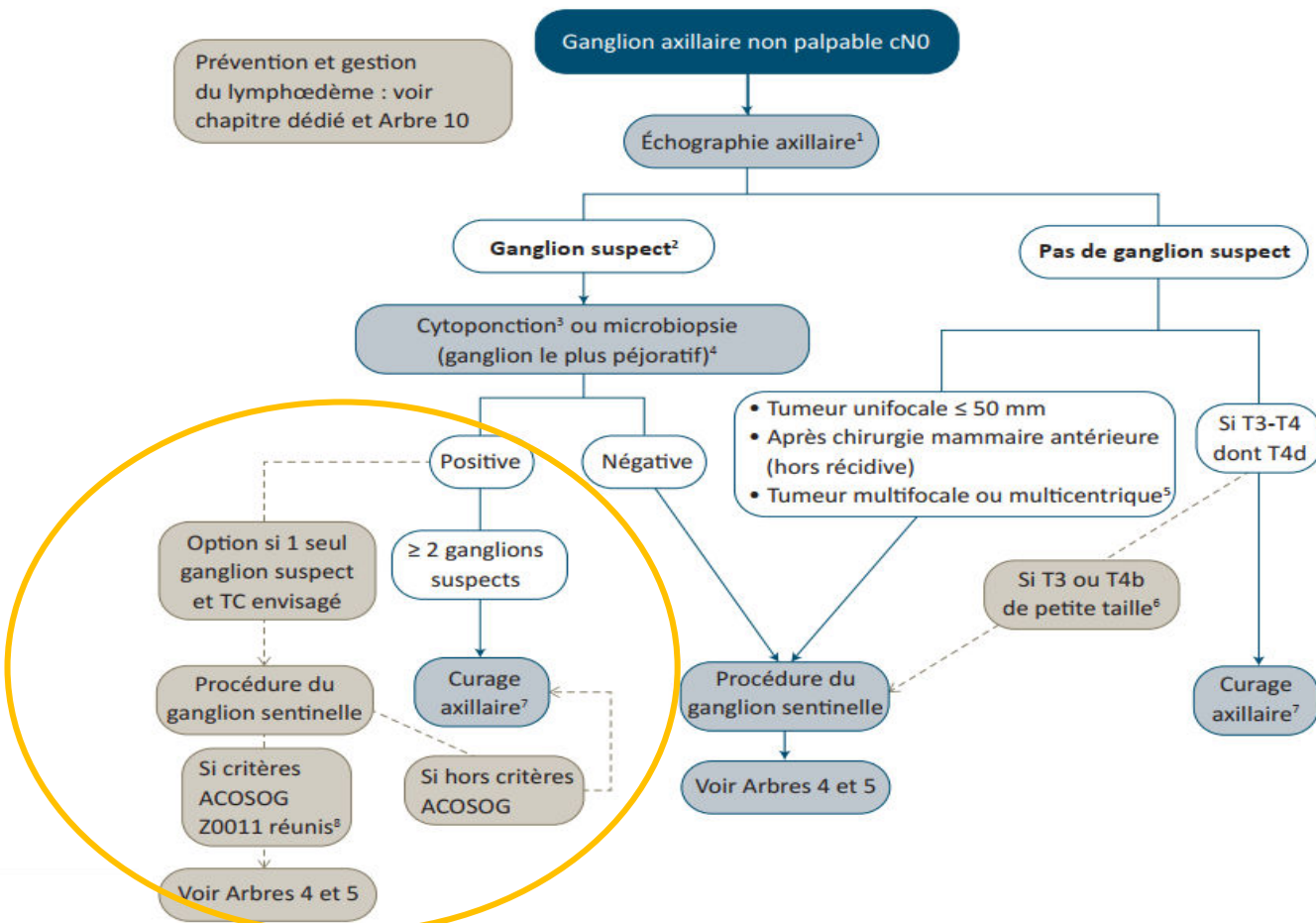


- SENOMAC trial (De Boniface et al, SWE) :
→ « After a median follow-up of **37.1 months**, **recurrence-free survival does not differ** when completion axillary lymph node dissection (cALND) is omitted in patients with clinically node-negative cT1-3N0 primary breast cancer and one to two sentinel lymph node macrometastases (2,766 patients) »

→ Confirmation abstention CA si <3N+

→ Si ≥3N+?

Arbre 3 : Exploration axillaire et conduites à tenir en cas de cNO (clinique et/ou radiologique)



Inca 2021-2022



Si cN0 mais 1N+ (anapath) → Option

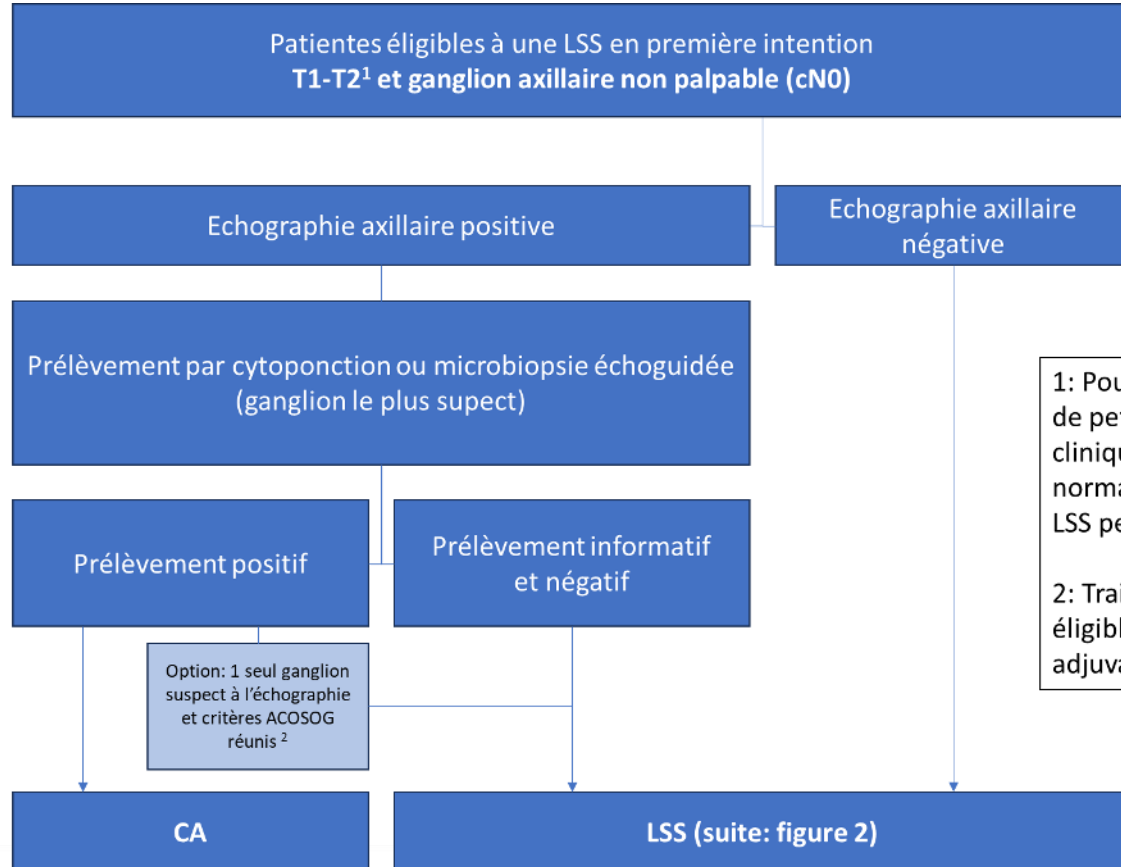


Figure 1.
Chirurgie première

1: Pour certaines lésions T3 ou T4b de petite taille (avec creux axillaires cliniquement et radiologiquement normaux, sans atteinte à distance), la LSS peut être discutée en RCP

2: Traitement conservateur, patiente éligible à un traitement systémique adjuvant

Dans les pratiques ???

- Etude de pratiques à venir au sein des CLCC
 - Quant à la désescalade en chirurgie initiale
 - En cas de maladie ypN0 post TSNA

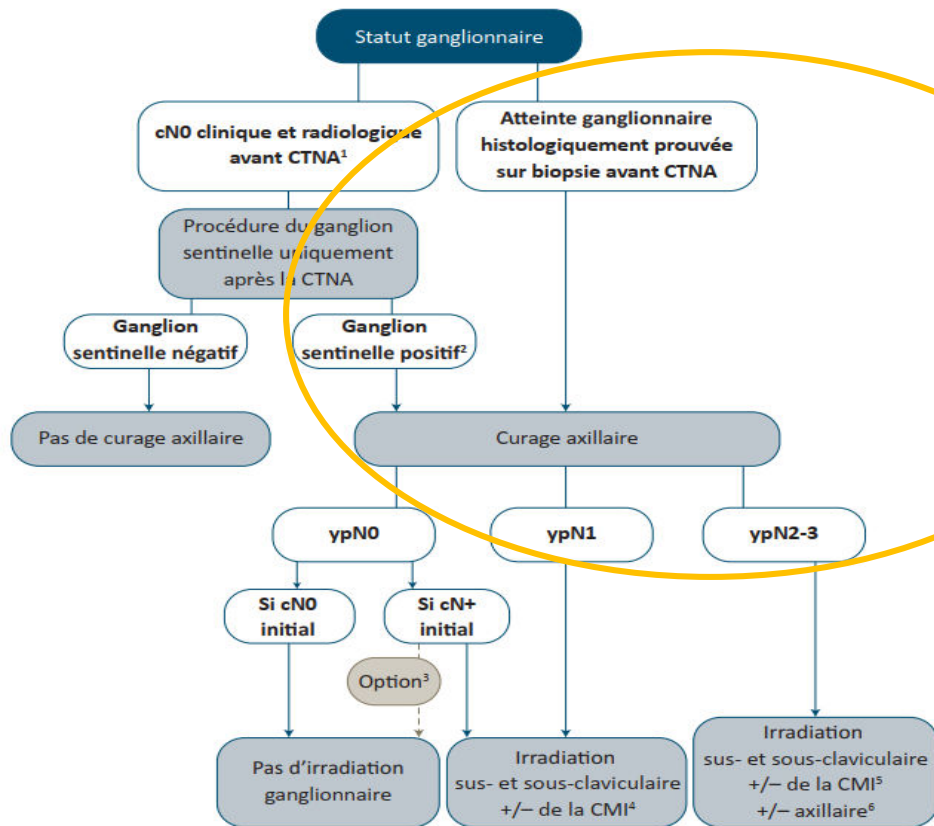


Post TSNA

Peut-on éviter un CA?



Arbre 9 : Geste axillaire et irradiation ganglionnaire après chimiothérapie néoadjuvante



Inca 2021-2022

Si cN0 pN0 → Oui

Si pN+ initial → Non en France

Statut ganglionnaire avant
TSNA (clinique et
radiologique)

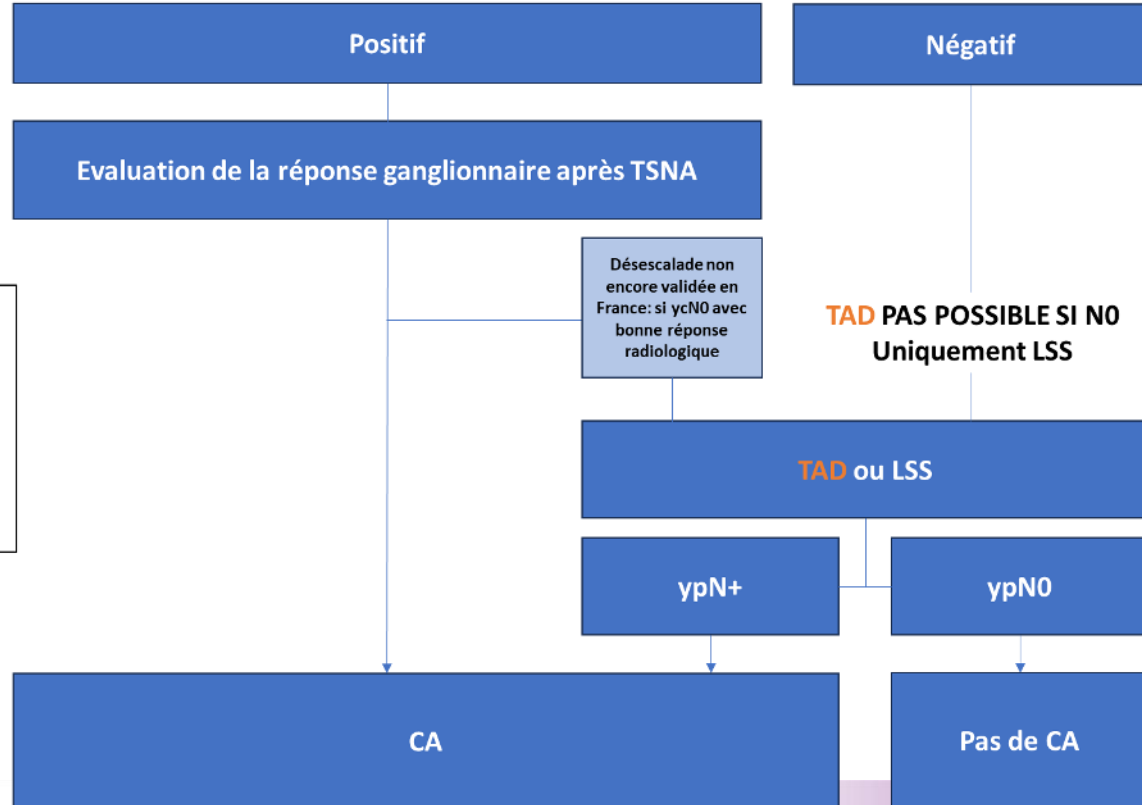


Figure 3. Choix du geste axillaire après TSNA

Targeted Axillary Dissection

Quoi?



TAD = LSS + TLNB

- **TAD** = Targeted Axillary Dissection = **DAC** = Dissection Axillaire Ciblée
- **LSS** = Lymphadénectomie sélective sentinelle
- **TLNB** = Targeted Lymph Node Dissection = **BEGC** = Biopsie-Exérèse Ganglionnaire Ciblée du ganglion clippé initialement N+



Targeted Axillary Dissection

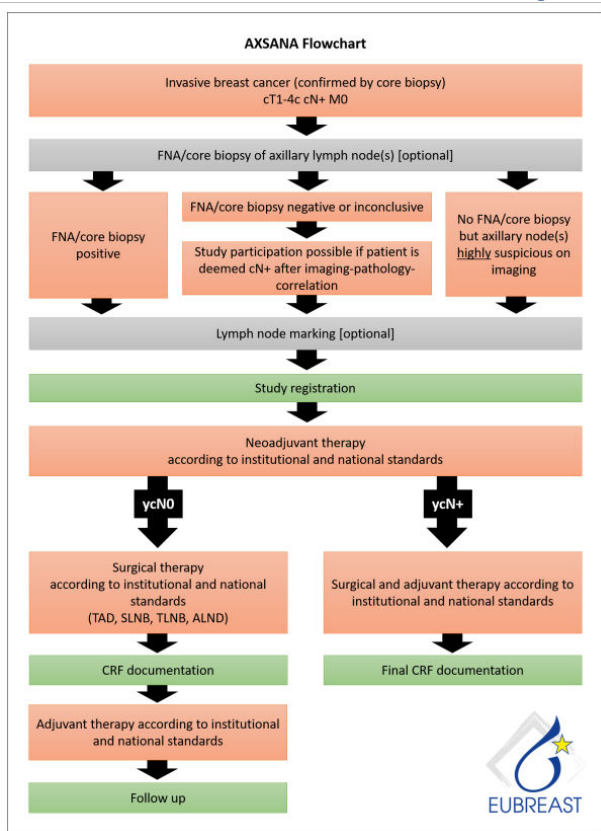
Comment?



Nombreuses méthodes ++

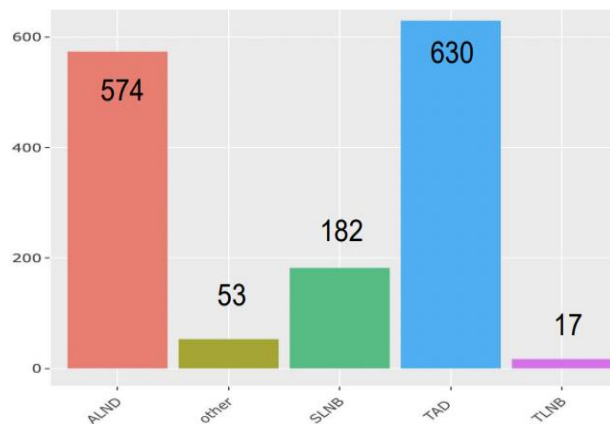
Type de repérage	Premier auteur [Référence]	Taux de détection (%)	Avantage(s)	Inconvénient(s)	Type d'étude, Pays	Année de publication	Patientes incluses (n)	Taux de FN (%) (selon analyse du CA)
Fil repère	Boughey [15]	83	Peu onéreux	Complications locales Repérage préopératoire immédiat Visibilité	Multicentrique, USA	2013	756	6,6 (DAC)
	Balasubramanian [22]	92	Simple		Monocentrique, ENG	2020	47	-
	Kuemmel [19]	86,9	Accessible Non radioactif Pas d'artéfact		Multicentrique, GER	2022	473	7,2 (BEGC) 4,3 (DAC, 1N) 0 (DAC, > 1N)
Clip radioactif	Caudle [13]	97,3	Précis Détection durable	Radioactivité Double repérage Pas de pose pré-TSNA si protocole long	Monocentrique, USA	2016	208	4,2 (BEGC) 10,1 (LSS) 2,0 (DAC)
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Tatouage	De Boniface [18]	98,7	Peu onéreux Accessible	Risque migration Pas de pose avant la TSNA	Multicentrique, SWE	2022	172	6,2 (DAC) (2017-2019) 0 (DAC) (2020-2021)
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	Martínez [21]	100			Multicentrique, SPA	2022	81	0% (DAC)
Infrarouge	Falcon [25]	89	Détection en temps réel, profonde, durable Pose avant la TSNA Pas d'artéfact	Allergies au nickel Grande taille Electrocoagulation limitée Plus onéreux Peu utilisé pour les ggl	Monocentrique, USA	2018	129	-
	Kasem [26]	99,6			Multicentrique, ENG	2020	842	-
Repérage cutané sous échographie	Lim [27]	0-100	Peu onéreux Simple	Repérage pré-op immédiat Détection variable Reproductibilité incertaine	Monocentrique, SIN	2020	14 (21 ganglions)	7,1% (DAC, 1N) 0% (DAC, > 1N)
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Tous	Swarnkar [16]	90			Méta-analyse	2021	521 (13 études)	6,28% (BEGC) 5,18% (DAC)
	Renaudeau [20]	-					Multicentrique, FRA	2023

En Europe : Axsana EUBREAST-3



- Détection ssi cN+ → 53% ycN0 :

- 43% TAD parmi 21 pays
- 53% ≥ 1N clippé(s) avant TSNA : clips/coils (83%), tatouage (8%), clips magnétiques (8%) et clip radioactive (1%).
- Hétérogénéité des pratiques



- Sécurité oncologique ?

Targeted Axillary Dissection

Quels résultats?



Indication et faisabilité

- TAD ssi N+ → N-, sinon CA
- 34/35 correctement posés et réséqués
 - 50% N- → Pas d'ALND
 - 50% CA → N- résiduel
- Coût TAD = LSS + CA

Selon les méthodes ++

Type de repérage	Premier auteur [Référence]	Taux de détection (%)	Avantage(s)	Inconvénient(s)	Type d'étude, Pays	Année de publication	Patientes incluses (n)	Taux de FN (%) (selon analyse du CA)
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Targeted Axillary Dissection

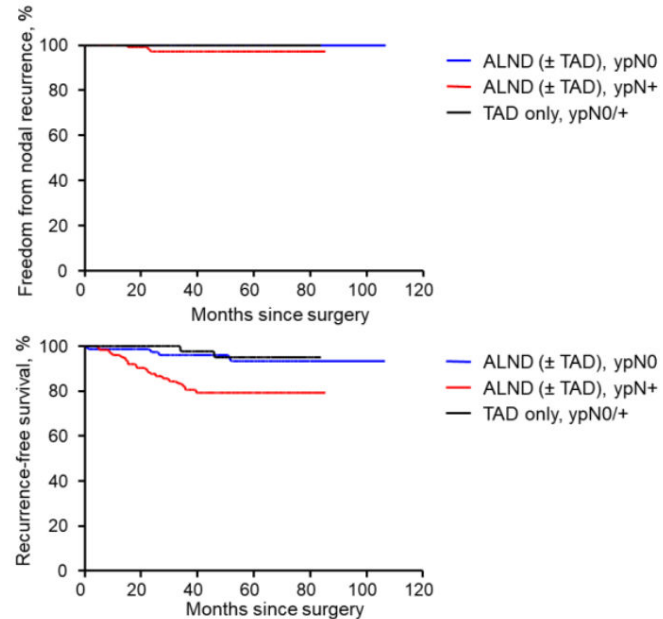
Sécurité oncologique au long cours



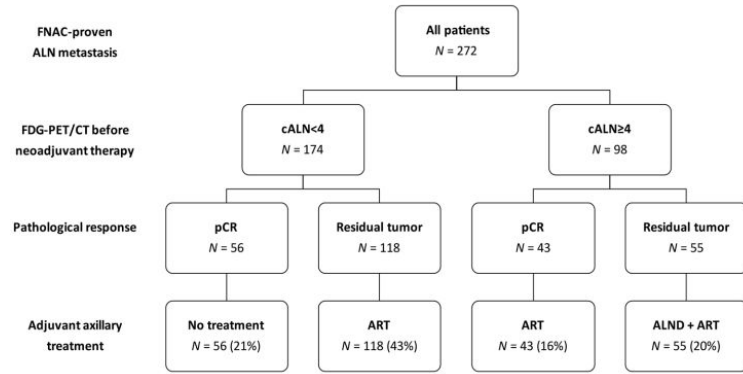
ESMO 2022

- Détection :
 - 94.1%
- Sécurité oncologique :
 - Bonne
 - Malgré inclusion ycN+
 - Malgré inclusion N>N1

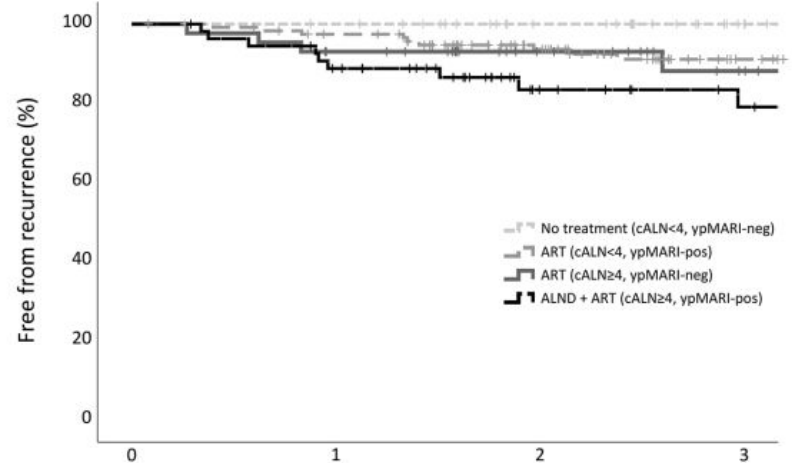
Figure.1 Kaplan–Meier estimates of freedom from nodal recurrence and recurrence-free survival by axillary surgery performed and pathologic nodal response to NACT



MARI, 2022



Recurrence-free interval



- Oui mais :

- Non-randomisée
- Patientes TAD = cN1
→ ycN0 ypN0

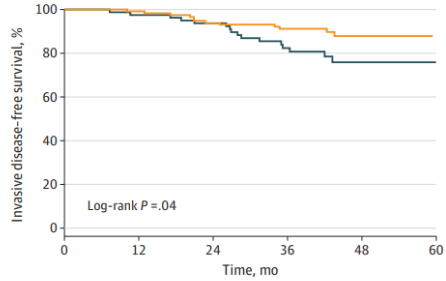
No. at risk

	0	1	2	3
No treatment (cALN<4, ypMARI-neg)	55	46	24	18
ART (cALN<4, ypMARI-pos)	118	110	85	56
ART (cALN≥4, ypMARI-neg)	43	37	25	16
ALND + ART (cALN≥4, ypMARI-pos)	56	54	43	29

SenTa, 2023

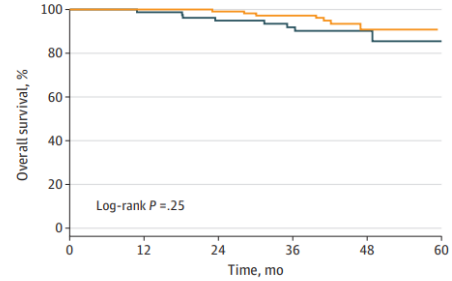
Figure 2. Kaplan-Meier Curves for Invasive Disease-Free and Overall Survival and Axillary Recurrence

A Invasive disease-free survival



No. at risk	119	117	108	97	27
TAD alone	119	117	108	97	27
TAD with ALND	80	78	72	53	22

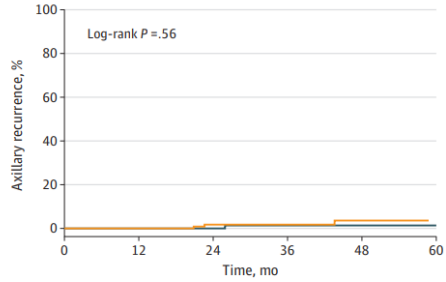
B Overall survival



No. at risk	119	118	114	105	31
TAD alone	119	118	114	105	31
TAD with ALND	80	79	74	59	24

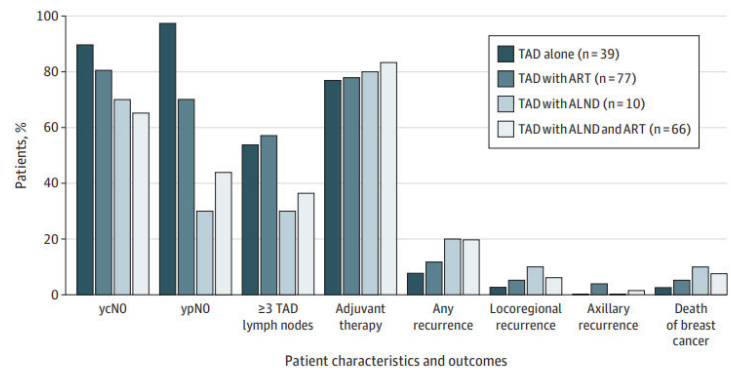
- Oui mais :
 - Non-randomisée
 - Patientes TAD = cN1 → ycN0 ypN0

C Cumulative incidence of ipsilateral axillary recurrence



No. at risk	119	118	113	103	30
TAD alone	119	118	113	103	30
TAD with ALND	80	79	74	59	24

Figure 3. Patient Characteristics and 3-Year Clinical Outcomes According to Axillary Treatment



Etudes à venir en 2024

- Axillary management in **T1-3N1M0** breast cancer patients with needle biopsy proven nodal metastases at presentation **after neoadjuvant chemotherapy** (**ATNEC**)
- **Tailored axillary surgery** with or without axillary lymph node dissection followed by radiotherapy in patients with **clinically node-positive** breast cancer (**TAXIS**): study protocol for a multicenter, randomized phase-III trial
- ...



Targeted Axillary Dissection

Recommandations



Saint-Gallen

Even in the most recent 2021 Saint Gallen guidelines, in patients treated for a breast cancer with initially involved axillary node, an axillary surgery is recommended after neoadjuvant chemotherapy (NAC), as a lymphadenectomy or a targeted axillary dissection (TAD) combining sentinel node and the resection of the initially involved node.

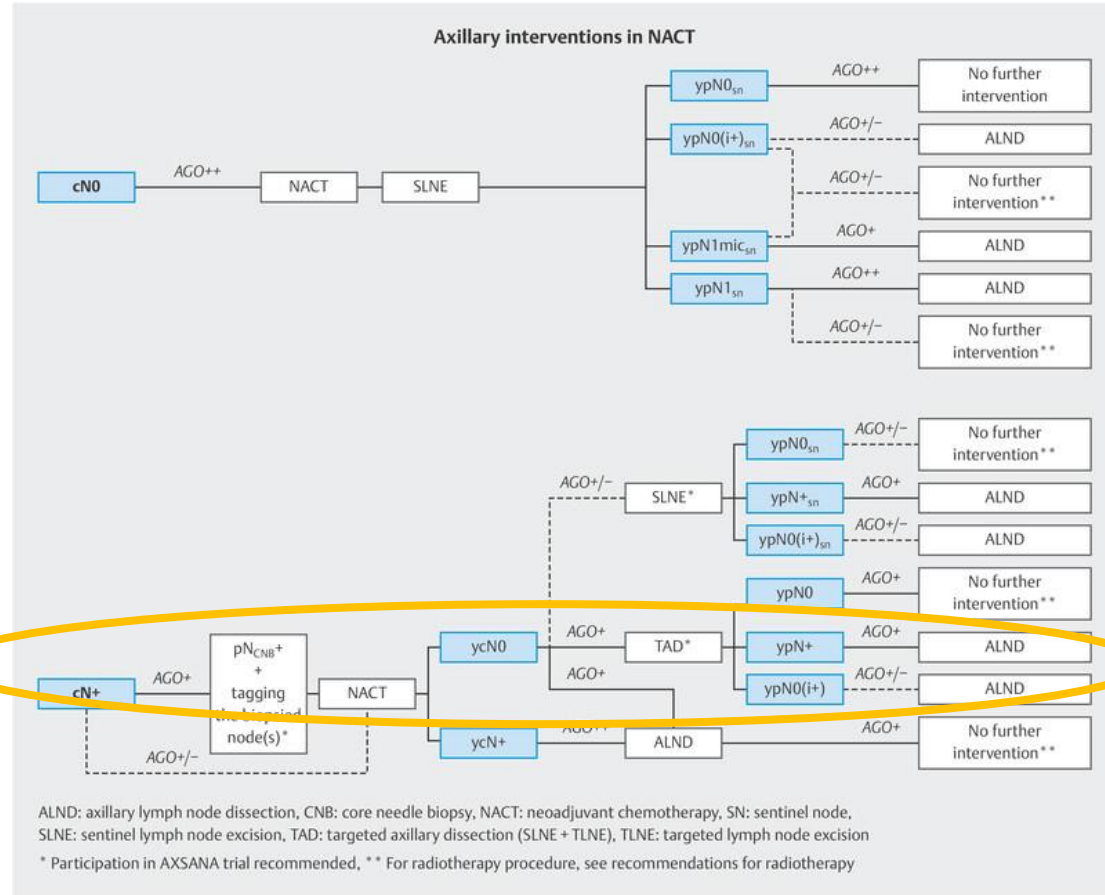
- TAD ssi cN+ → ypN0, sinon CA !!



AGO Guidelines (Allemagne)

Table 4 Trials evaluating different marking techniques.

Study	Country	Marking technique	Case numbers (n)	Detection rate	FNR
SENTA 15 (NCT 03012307)	D	clip placement	473	77.3%	4.30% (95% CI: 0.5–14.8)
RISAS 16 , 17 (NCT 02800317)	NL	radioactive seed placement	227	98.0%	3.47% (95% CI: 1.38–7.16)
TATTOO 18 (DRKS 00013169)	D, S	dye (carbon tattooing)	110	93.6%	9.10%




NCCN Guidelines 2022

- Highly selected patients with **biopsy proven axillary metastases**, who then converted to clinically **node negative after preoperative systemic therapy**, may undergo **SLNB with removal of the clipped lymph node**. This is a currently a **category 2B** recommendation as the rate of false negatives is high when SLN is performed after preoperative systemic therapy.
- According to the NCCN Panel, based on available data, the **false negative rate** can be **reduced by marking biopsied lymph nodes** to document their removal, using dual tracer, and by **removing ≥ 3 sentinel nodes (targeted ALND)**.
- When sentinel nodes are **not successfully identified**, the panel recommends **level I and II axillary dissection** be performed for axillary staging.

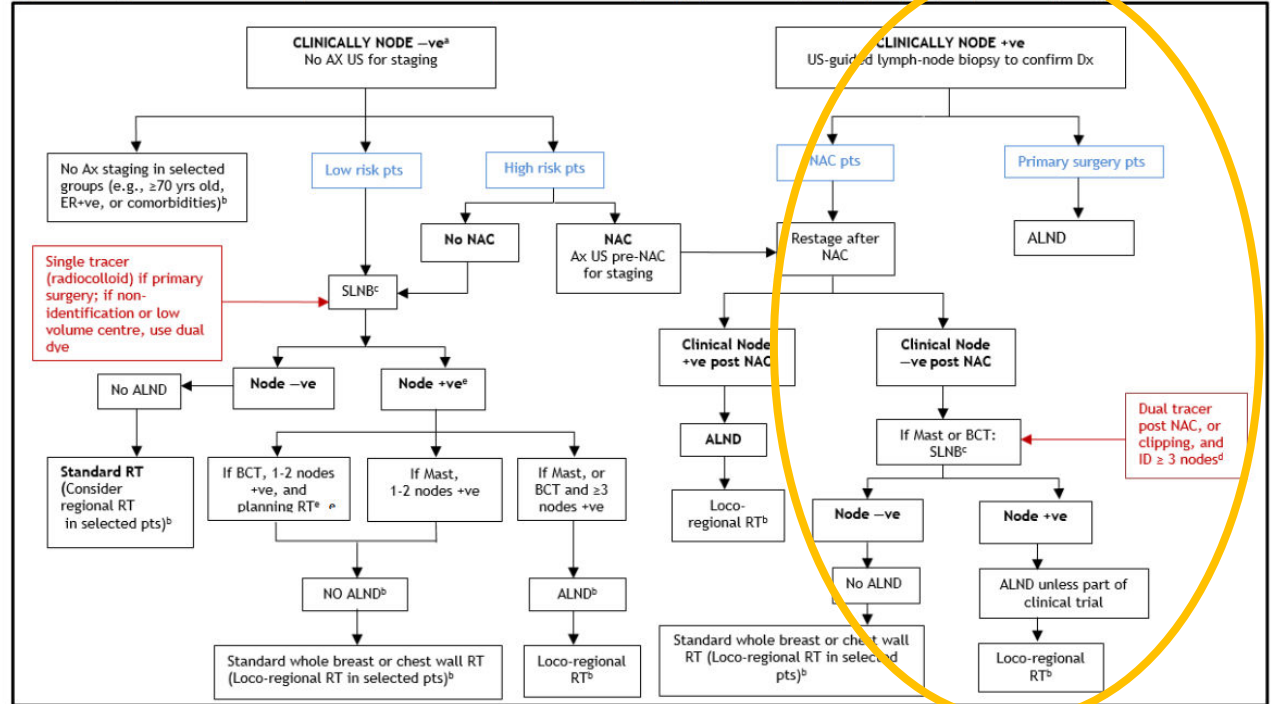


ASCO Guidelines 2022

- For patients who were **initially clinically and biopsy-proven node-positive**, and became **node-negative after NAC**, we recommend **SLNB** to restage the axilla.
 - Restaging can be achieved by **placing a biopsy clip** [...] and localizing it at surgery along with sentinel node biopsy **or** by performing sentinel node biopsy with dual tracer and excising **at least three sentinel nodes to minimize the false-negative rate (FNR)** and optimize accuracy of the procedure.
 - At this time, we also recommend **LRNI** for these patients, regardless of pathologic status of sentinel lymph nodes.
 - **SLNB** timing: **before or after NAC** (after in cN0 patients who will receive NAC)
 - **Clip placement** to ensure removal of the biopsy-proven clipped lymph node in patients who are candidates for a targeted axillary dissection after neoadjuvant therapy results in **false negative rates as low as 2%** (Kuerer et al, 2016).
- 

Ontario/Can /ASCO Guidelines

Figure 1-1. Algorithm for the management of the axilla in patients with early-stage (clinical stage T1,T2, N0,N1 [Stage I to Stage II]) breast cancer



- a Refers to all patients with no palpable axillary nodes on physical examination, including those who may have had an ultrasound that was equivocal, abnormal, or even biopsy-proven positive.
- b Decision making should be made on a case-by-case basis, and include a patient centered approach, that is consider and discuss pros and cons of various options in light of patient's specific circumstances, values and preferences.
- c Do not recommend SLNB before chemotherapy except in special circumstances after multidisciplinary discussion.
- d Evidence supports the use of dual localizing tracer (blue dye and radio-isotope) and harvesting ≥ 3 nodes or else do ALND to minimize false negative rate; any clipped positive nodes should be localized for surgery.
- e In rare circumstances (e.g., a small T1aN1) it is possible to avoid radiation (see Justification of Recommendation 3D)

LSS suffisante ?

Oui



SABCS 2022

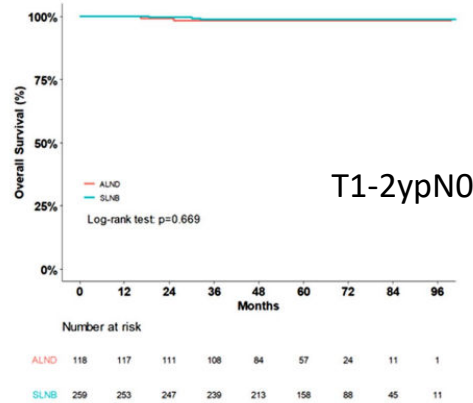
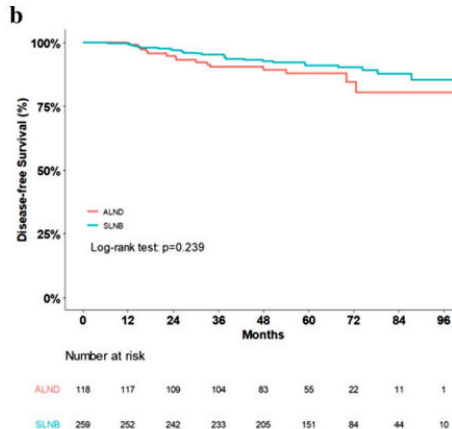
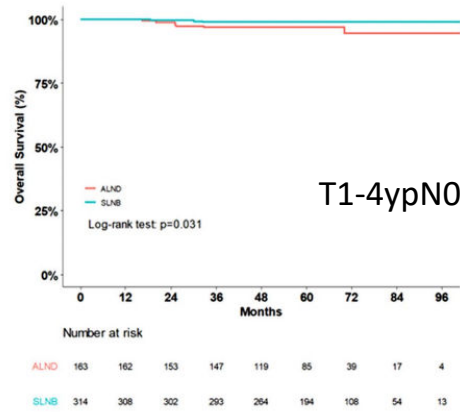
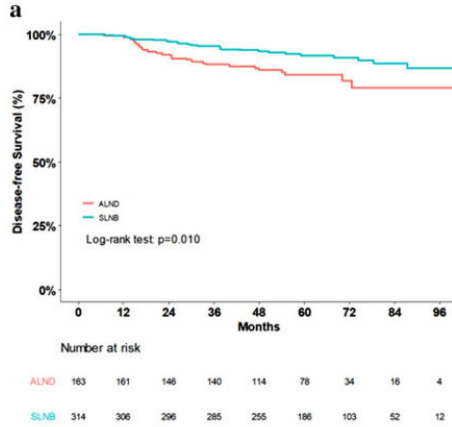
- The 5-year rates of any axillary recurrence, locoregional recurrence, and any invasive recurrence in the entire cohort were 1.1% (95%CI 0.39-2.4%), 3.1% (95%CI 1.6-5.3%) and 10% (95%CI 7.6-13%), respectively.
- The two-year cumulative incidence of axillary recurrence did not differ between patients treated with TAD compared to SLNB (0% vs 0.9%, p=0.19).

	Full cohort n = 785	SLNB only n = 565	TAD n = 220	p-value
Age, median (IQR)	50 (41, 59)	50 (41, 58)	50 (43, 59)	0.3
Race/ethnicity				<0.001
White	519 (66)	341 (60)	178 (81)	
Black	67 (8.5)	62 (11)	5 (2.3)	
Asian	103 (13)	81 (14)	22 (10)	
Hispanic	63 (8)	55 (9.7)	8 (3.6)	
Other/unknown	33 (4.2)	26 (4.6)	7 (3.2)	
Clinical T stage				0.13
1	156 (20)	108 (19)	48 (22)	
2	447 (57)	314 (56)	133 (60)	
3	150 (19)	117 (21)	33 (15)	
4	24 (3.1)	18 (3.2)	6 (2.7)	
X	8 (1)	8 (1.4)	0 (0)	
Clinical N stage				0.4
1	744 (95)	538 (95)	206 (94)	
2	27 (3.4)	19 (3.4)	8 (3.6)	
3	14 (1.8)	8 (1.4)	6 (2.7)	
Number of SLNs removed, median (IQR)	3 (3, 5)	4 (3, 5)	3 (2, 4)	<0.001
Total number of LNs removed, median (IQR)	4 (3, 5)	4 (3, 5)	3 (3, 5)	<0.001
Breast pCR (ypT0/is)				<0.001
Yes	547 (70)	372 (66)	175 (80)	
No	230 (29)	185 (33)	45 (20)	
Occult	8 (1)	8 (1.4)	0 (0)	
NAC regimens HER2- tumors*				<0.001
ACT	250 (71)	207 (81)	43 (45)	
ACT+Platinum	71 (20)	38 (15)	33 (35)	
AC free regimen	4 (1.1)	2 (0.8)	2 (2.0)	
Other	25 (7.1)	8 (3.1)	17 (19)	
NAC regimens HER2+ tumors**				<0.001
ACT-H	18 (4.1)	14 (4.6)	4 (3.2)	
ACT-HP	288 (66)	235 (76)	53 (42)	
TC-HP	95 (22)	40 (13)	55 (44)	
Other	34 (8)	21 (6.8)	13 (10.4)	
Histology				0.2
Ductal	733 (95)	530 (95)	203 (93)	
Lobular or mixed	29 (3.7)	18 (3.2)	11 (5.0)	
Other	12 (1.6)	7 (1.3)	5 (2.3)	
Unknown	11	10	1	
Tumor differentiation				<0.001
Well	20 (2.6)	10 (1.8)	10 (4.7)	
Moderately	174 (23)	174 (23)	75 (35)	
Poorly	561 (74)	432 (80)	129 (60)	
Unknown	30	24	6	
Subtype				0.6
HR+/HER2-	182 (23)	136 (24)	46 (21)	
HR+/HER2+	261 (33)	183 (32)	78 (35)	
HR-/HER2+	174 (22)	129 (23)	45 (20)	
HR-/HER2-	168 (21)	117 (21)	51 (23)	
LVI				0.7
Yes	112 (15)	84 (15)	28 (14)	
Unknown	36	16	20	
Type of breast surgery				0.2
BCS	407 (52)	286 (51)	121 (55)	
Mastectomy	372 (47)	273 (48)	99 (45)	
No breast surgery†	6 (0.8)	6 (1.1)	0 (0)	
Whole breast radiotherapy‡				>0.9
Yes	402 (98)	284 (98)	118 (98)	
No	5 (2)	2 (2)	3 (2)	
Post mastectomy radiotherapy**				>0.9
Yes	289 (78)	212 (78)	77 (78)	
No	83 (22)	61 (22)	22 (22)	
Nodal radiotherapy				0.017
Yes	595 (76)	415 (74)	180 (82)	
No	188 (24)	148 (26)	40 (18)	
Unknown	2	2	0	

Frequency (row percent) reported for categorical variables, and median (IQR) reported for continuous variables
 SLNs Sentinel Lymph Nodes; LNs lymph nodes; pCR pathological complete response; ACT anthracycline and taxane; AC anthracycline; H Herceptin, HP, Herceptin and Perjeta; TC taxol (or Taxotere) and carboplatinum; LVI lymphovascular invasion; BCS breast conserving surgery
 * Applies to HER2- tumors only (n=350)
 ** Applies to HER2+ tumors only (n=435)
 † Applies to occult cases only
 ‡ Applies to lumpectomy patients only (n=407)
 †† Applies to mastectomy patients only (n=372)

Montagna et al, GS4-02,
the OPBC-04/EUBREAST-06/OMA study

LSS vs CA



- Pas de différence de survie mais
 - Moins bon pronostic des patientes traitées par CA
 - Pas de différence significative si T1-2

	Total ($N=477$)		SLNB ($N=314$)		ALND ($N=163$)		p
	N	%	N	%	N	%	
Axillary recurrence	13	2.7	10	3.2	3	1.8	0.398
Local recurrence	14	2.9	5	1.6	9	5.5	0.022
Distant recurrence	38	8.0	19	6.1	19	11.7	0.032

LSS sufficiente ?

Non



Discordance ganglions clippé et sentinelle

Type de repérage	Premier auteur [Référence]	Taux de détection (%)	Type d'étude, Pays	Année de publication	Patientes incluses (n)	Taux de discordance (clippés ≠ GS)
Fil repère	Balasubramanian [22]	92	Monocentrique, ENG	2020	47	13,04%
	Kuettel [19]	86,9	Multicentrique, GER	2022	473	35,2%
Clip radioactif	Caudle [13]	97,3	Monocentrique, USA	2016	208	23%
Tatouage	De Boniface [18]	98,7	Multicentrique, SWE	2022	172	52,1%
	Pinto [14]	83-94,4	Monocentrique, POR	2022	31	11%
Clip magnétique	Mariscal Martínez [24]	100	Monocentrique, SPA	2021	29	50%
	Martínez [21]	100	Multicentrique, SPA	2022	81	18,5%
Infrarouge	-	-	-	-	-	-
Repérage cutané sous échographie	-	-	-	-	-	-

➔ Pas de connaissance de la réponse thérapeutique ganglionnaire

Targeted Axillary Dissection

RT ensuite?



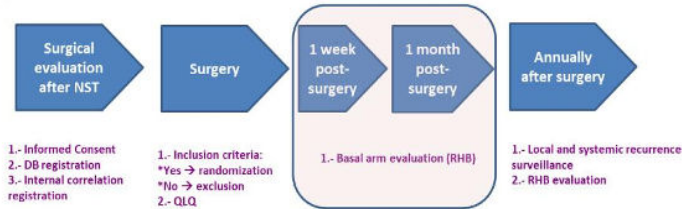
Pas si ypN0? → SABCS 2023

- [NRG Oncology/NSABP B-51/RTOG 1304](#) (Mamounas et al, USA) :
 - « Evaluable patients (1,556 patients) had **similar outcomes** whether they received adjuvant regional nodal irradiation (RNI) or not. »
 - « **91.8%** of patients who skipped RNI and **92.7%** of those who received RNI were **free of invasive breast cancer recurrences** five years after surgery. **Distant recurrence and overall survival** rates were also **similar** between the arms. »

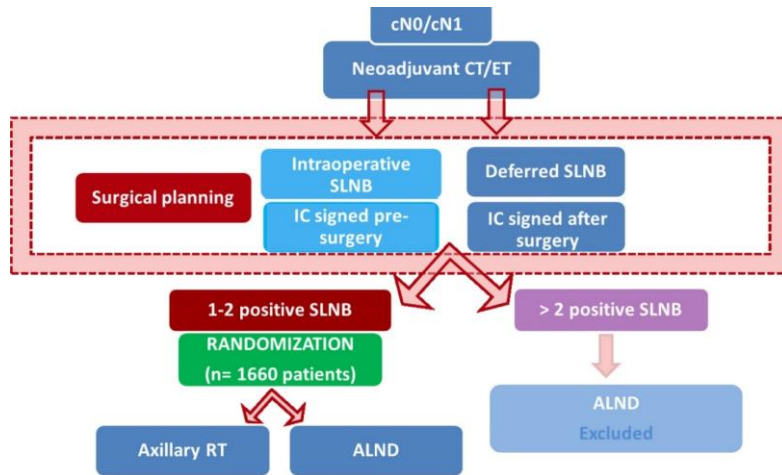
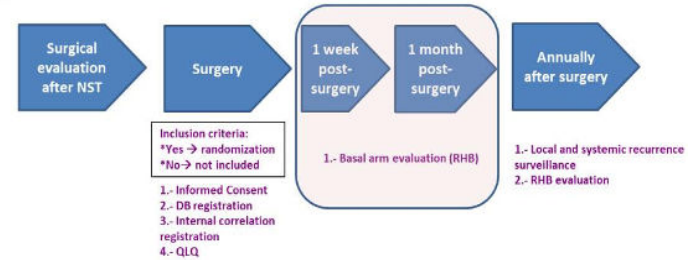


Oui si ypN+ vs CA → ADARNAT

A



B



- Adarnat (Garcia-Tejedor A et al) :
 → RT vs CA en cas de LSS positive (< 3 N+) après TSNA

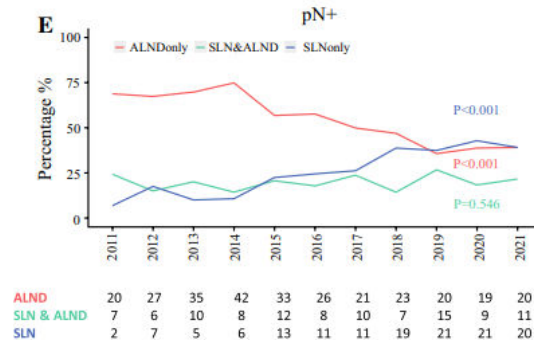
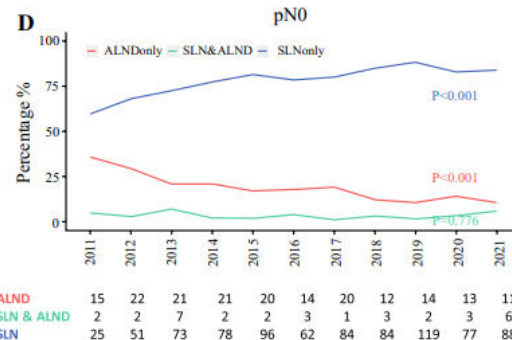
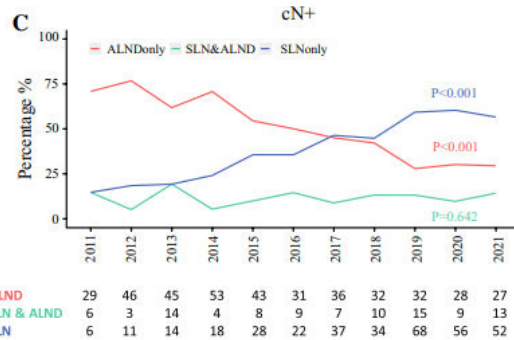
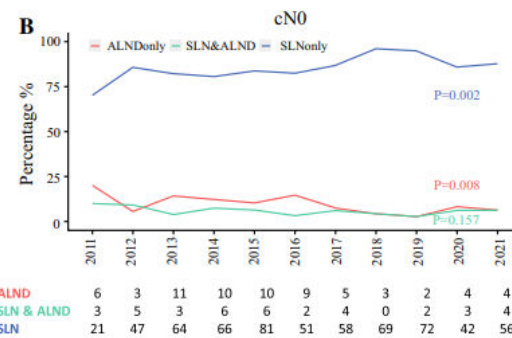
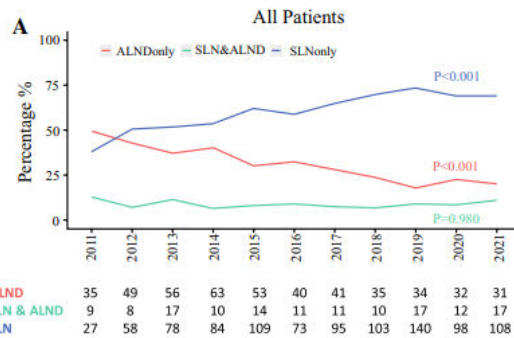
Changement de pratiques

Post TSNA



Etude ancillaire I-SPY2

- CA diminue de :
 - 20 % à 6,25 % (p = 0,0078) si cN0
 - 70,7 % à 29,4 % (p < 0,0001) si cN+
 - 69,0 % à 39,2 % (p < 0,0001) si pN+ !!
- LSS augmente de :
 - 14,6 % à 56,5 % (p < 0,0001).
 - 6,9 % à 39,2 % (p < 0,0001) si pN+ !!



Boughey JC et al. Changes in Surgical Management of the Axilla Over 11 Years - Report on More Than 1500 Breast Cancer Patients Treated with Neoadjuvant Chemotherapy on the Prospective I-SPY2 Trial. Ann Surg Oncol. 2023

Targeted Axillary Dissection

Et en France ?



Ganea 1-3

In 2009, we published that SLN was feasible after NAC (Ganea1 1 study, JCO 2009). In 2021, we demonstrate that in case of patients without initially lymph node involvement a SLN without axillary lymph node dissection was feasible and safe (Ganea 2 study, Breast cancer research treatment 2021). More recently, we showed that patients, with triple negative or HER2 over expressed and a pathological complete response (PCR) at breast surgery after NAC, experienced a very low risk of axillary tumour residual, assessed by TAD. For these patients the false negative rate of TAD was 6%. (Ganea 3, San Antonio breast cancer symposium 2022).



Ganea 4

Selected patients with initially positive node treated with NAC, and a low risk of axillary involvement after NAC could be spare from any axillary surgery, even TAD. To achieve this goal, the first step consist in defining precisely this selected population, according to recommended strategies.

GANE4 trial is a prospective multi institutional cohort of early TNBC patients with initially involved axillary node, treated with NAC, aimed at selecting a subgroup of patients with a low risk of pathological residual in axilla after neoadjuvant recommended treatment.



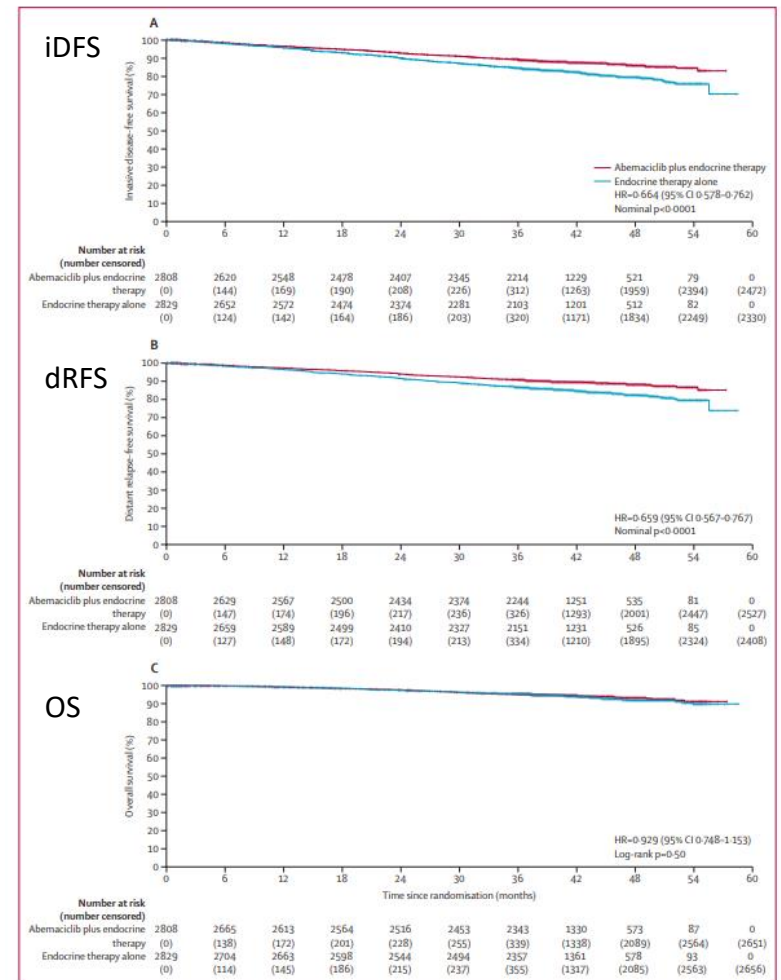
Ré-escalade?

Pour qui? Pourquoi?



RH + N1-2 → Abemaciclib (MonarchE)

- Bénéfice pour DFS/RFS, en attente pour OS
- RH+ Her2- cN2 ou cN1 et ≥ T3 ou grade III
- Chir première ou post-TSNA
- CA pour connaître le nombre de ganglions atteints
- Abemaciclib selon les critères MonarchE



Johnston SRD et al. Abemaciclib plus endocrine therapy for hormone receptor-positive, HER2-negative, node-positive, high-risk early breast cancer (monarchE): results from a preplanned interim analysis of a randomised, open-label, phase 3 trial. Lancet Oncol. 2023

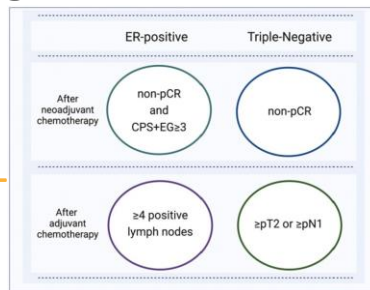
RH + BRCAm N2 →

Olaparib (OlympiA)

- Bénéfice pour DFS/RFS/OS

- CSTN non-pCR

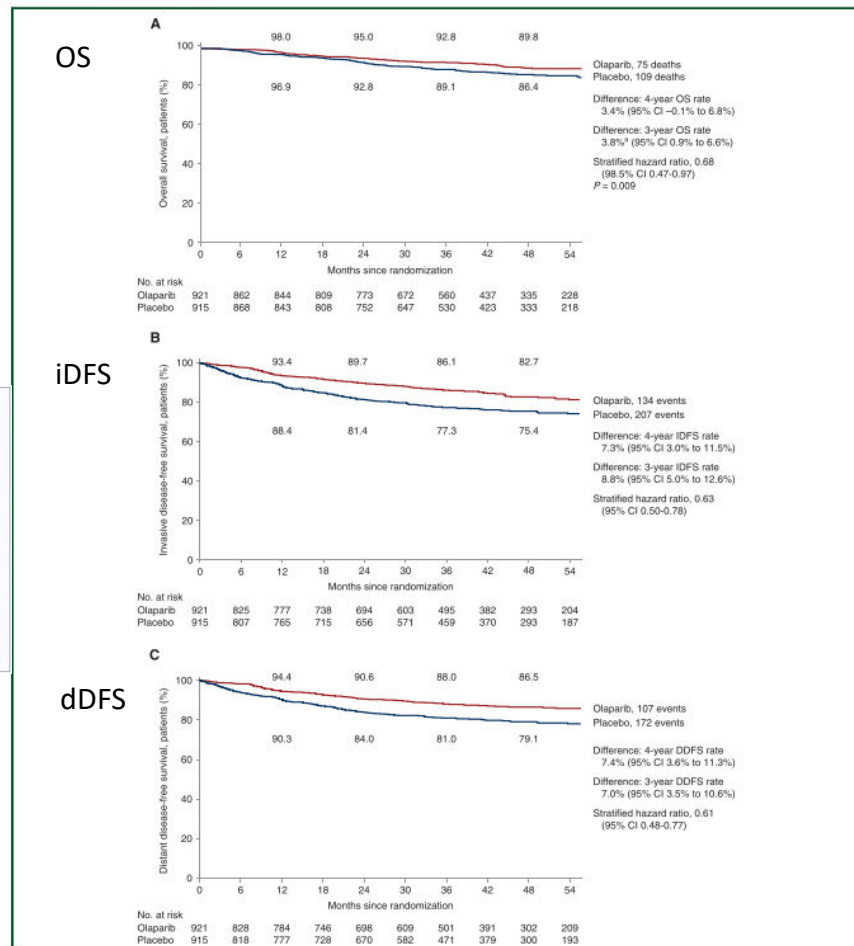
- RH+ Her2- gBRCApv >pN1 ou CPS + EG score ≥3



- Chir première ou post-TSNA

→ CA pour connaître le nombre de ganglions atteints

→ Olaparib selon les critères OlympiA



Take-home messages

En avril 2024 et en France



Recommandations françaises

- Chirurgie première :
 - cN0 → LSS
 - cN1 =1N → TAD? ou CA
 - cN+ >1N → CA
 - pN1 <3N → LSS seule
 - pN1 ≥3N → LSS +/- CA
- Chirurgie post-TSNA :
 - cN0 → LSS
 - cN+ypN0 → CA hors essais
 - ypN1 → CA

A venir post TSNA

- TNBC
 - Ganea 4
 - cN1 → ypN0 : TAD



7ÈME SÉMINAIRE INTERRÉGIONAL DE PRISE EN CHARGE DU CANCER DU SEIN

Vendredi 5 avril 2024
Collectivité européenne d'Alsace

7^{ÈME}
SÉMINAIRE
INTERRÉGIONAL
de prise en charge
du cancer du sein

5 avril 2024

Merci

Des questions?

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