Centre Antoine-Lacassagne
Centre Régional de Lutte contre le Cancer

33èmes journées de la Société Française de Sénologie et de Pathologie Mammaire

Université Nice SOPHIA ANTIPOLIS

Les cancers du sein infiltrants de bon pronostic: Trop ou pas assez ?

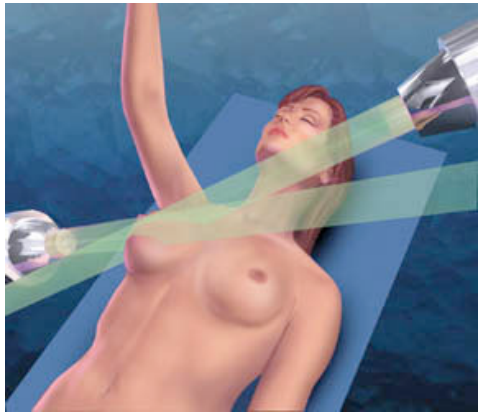
Moins d'irradiation, pas d'irradiation

Jean-Michel Hannoun-Levi
Département de Radiothérapie
Centre Antoine Lacassagne – NICE

33ème journées de la Société Française de Sénologie et de Pathologie Mammaire
09-10 Novembre 2011 – Palais du Pharo - Marseille

Pas de conflit d’intérêt

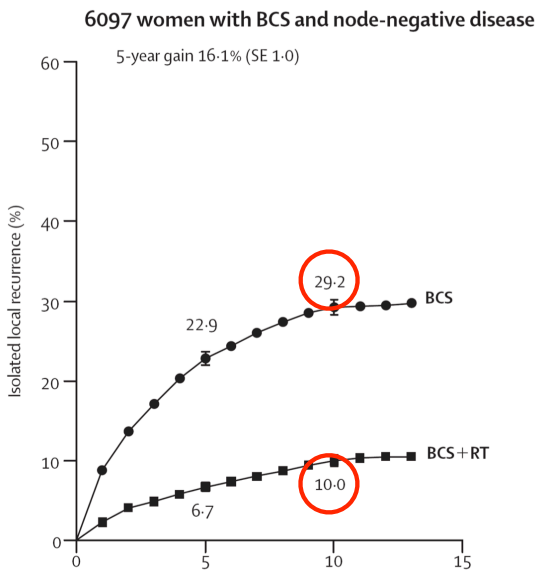
RT vs. No RT
"Evidence Based Medicine"



RT vs. No RT
"Evidence Based Medicine"

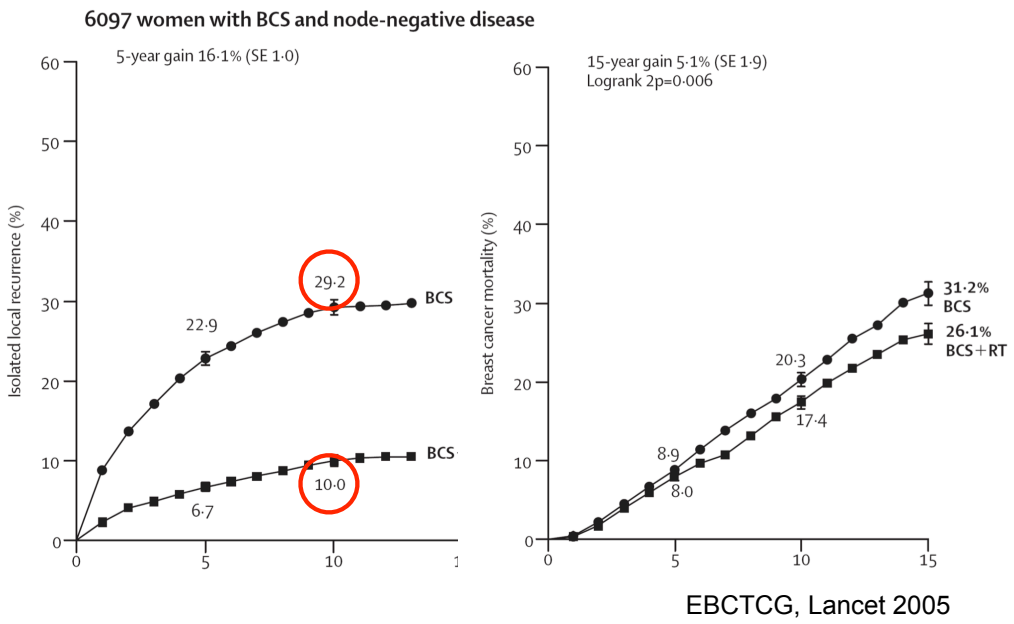
NIVEAU A	Il existe une (des) méta-analyse(s) « de bonne qualité » ou plusieurs essais randomisés « de bonne qualité » dont les résultats sont cohérents.
NIVEAU B	Il existe des preuves « de qualité correct » : essais randomisés (B1) ou études prospectives ou rétrospectives (B2). Les résultats de ces études sont cohérents dans l'ensemble.
NIVEAU C	Les études disponibles sont critiquables d'un point de vue méthodologique ou leurs résultats ne sont pas cohérents dans l'ensemble.
NIVEAU D	Il n'existe pas de données ou seulement des séries de cas.

RT vs no RT



EBCTCG, Lancet 2005

RT vs no RT



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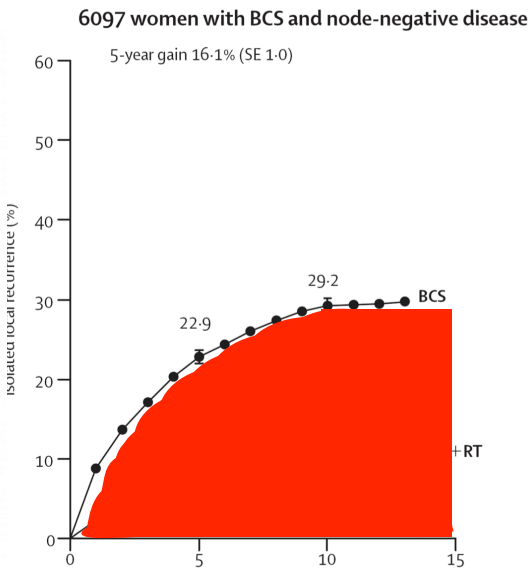
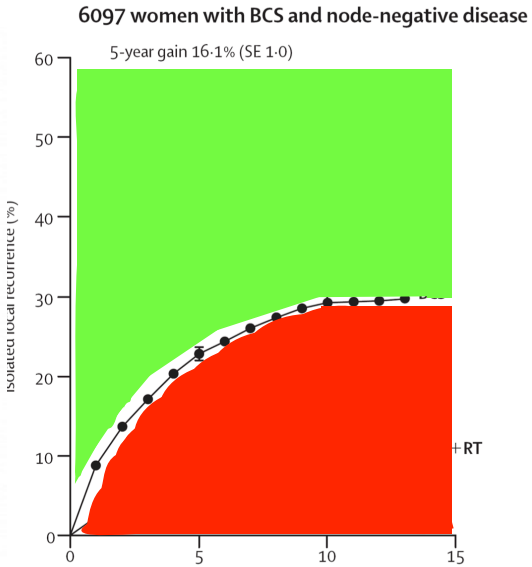

6097 women with BCS and node-negative disease
5-year gain 16·1% (SE 1·0)
Isolated local recurrence (%)
60
50
40
30
20
10
0
0
5
10
15
22·9
29·2
BCS
+RT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5-year gain 16·1% (SE 1·0)
Isolated local recurrence (%)
60
50
40
30
20
10
0
0
5
10
15
+RT

Pour un sous-groupe de patiente à faible risque de rechute locale, peut-on se passer d'une RT post-opératoire ?

Essais randomisés évaluant pour des cancer du sein à faible risque de rechute locale l’absence de RTH post-opératoire

Essais randomisés évaluant pour des cancer du sein à faible risque de rechute locale l'absence de RTH post-opératoire

Etudes	Date	Traitements post-tumorectomie	Nbre pts	Age médian (années)	Suivi médian (années)	Récidive locale (%)	Survie globale (%)
Fisher et al.	2002	RTH + TAM	334		8	2.8	93
		RTH	332			9.3	94
		TAM	334			16.5	93
Fyles et al.	2004	RTH + TAM	386	68	5	0.6	92
		TAM	383			7.7	92
Hughes et al.	2004	RTH + TAM	317	76	5	1.0	87
		TAM	319			4.0	86
Winzer et al.	2004	RTH + TAM	94		6	3.8	94
		RTH	94			3.2	90
		TAM	80			2.8	96
		-	79			27.8	90
Potter et al.	2007	RTH + TAM	414	66	4.5	0.4	98
		TAM	417			5.1	95

Essais randomisés évaluant pour des cancer du sein à faible risque de rechute locale l'absence de RTH post-opératoire

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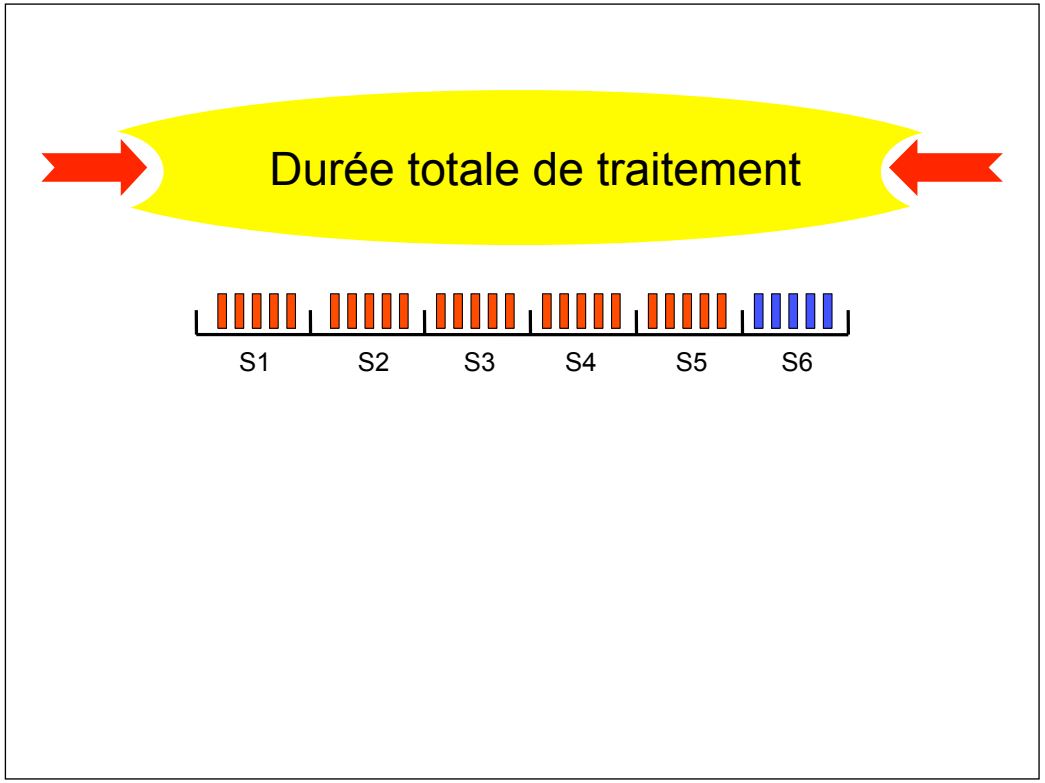
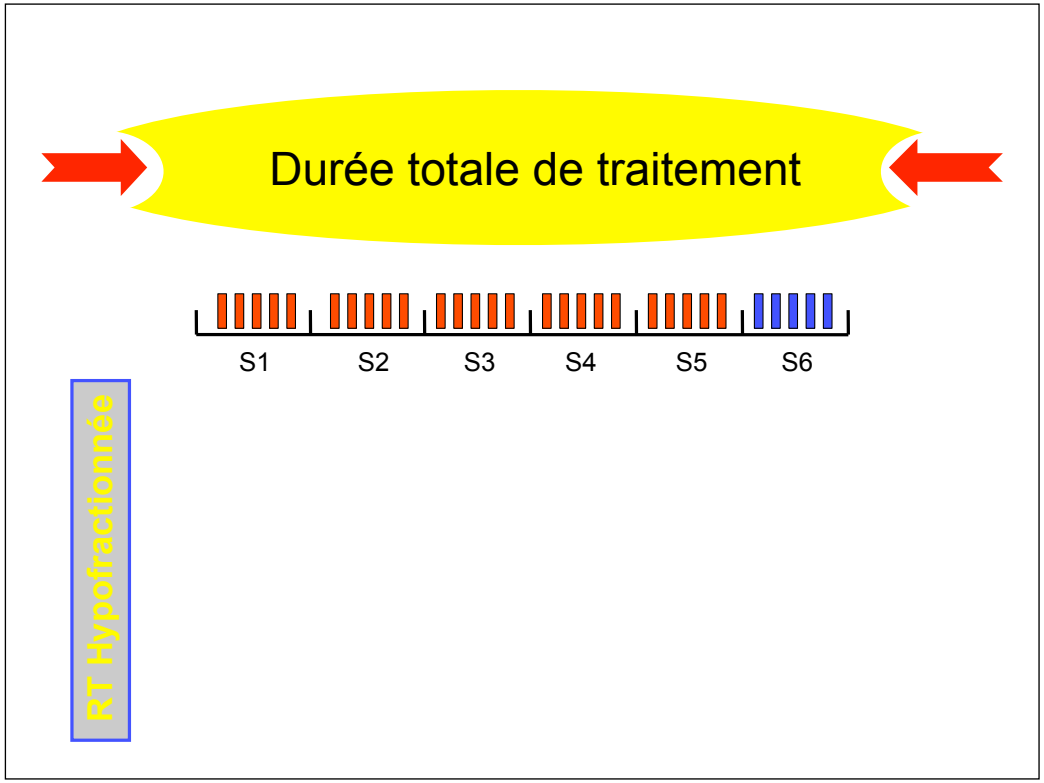
Quelles sont les possibilités de diminution de la RT post-opératoire ?



Different teams proposed a reduction of the overall treatment time



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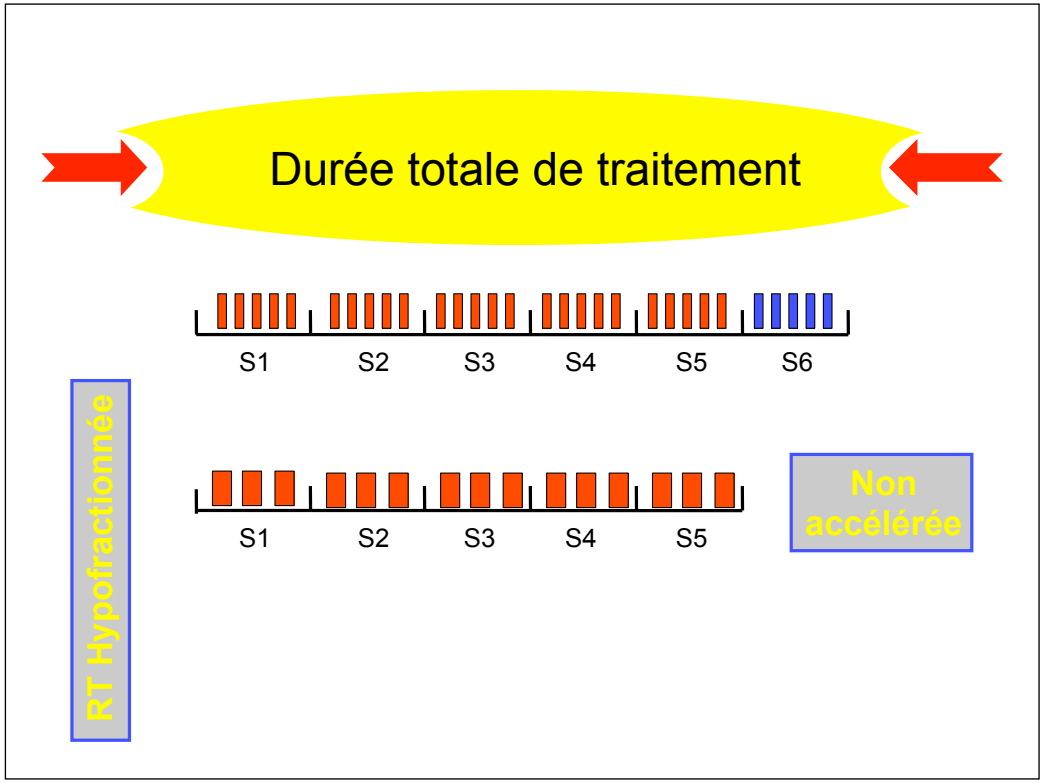

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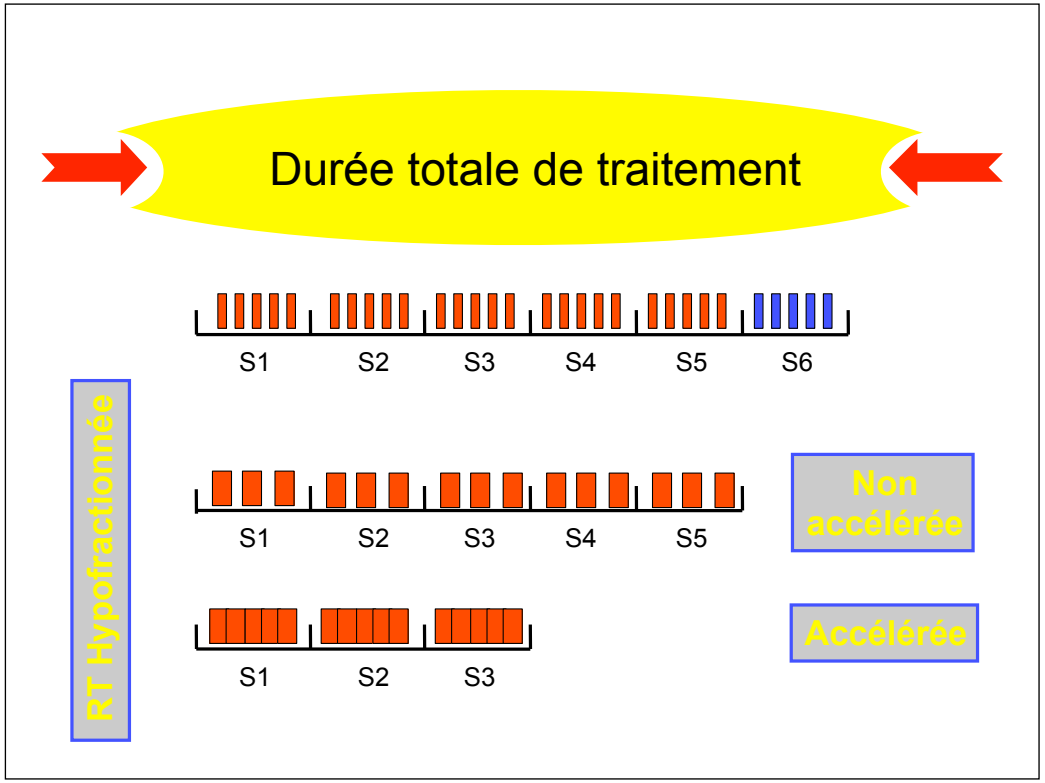

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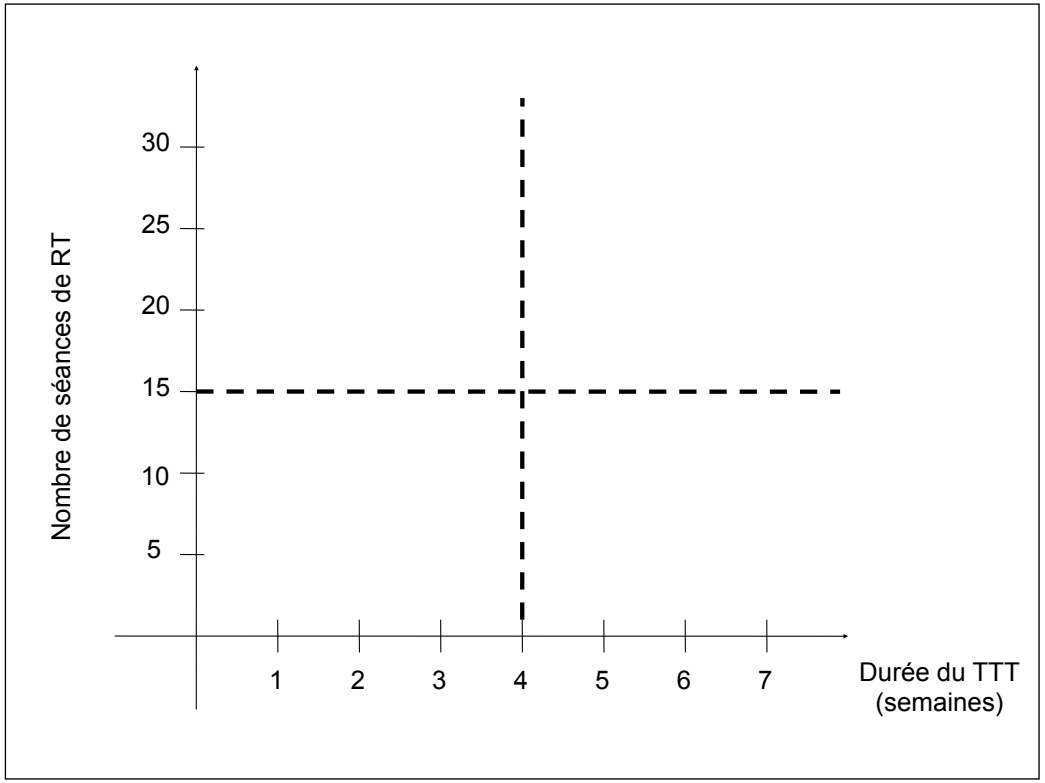
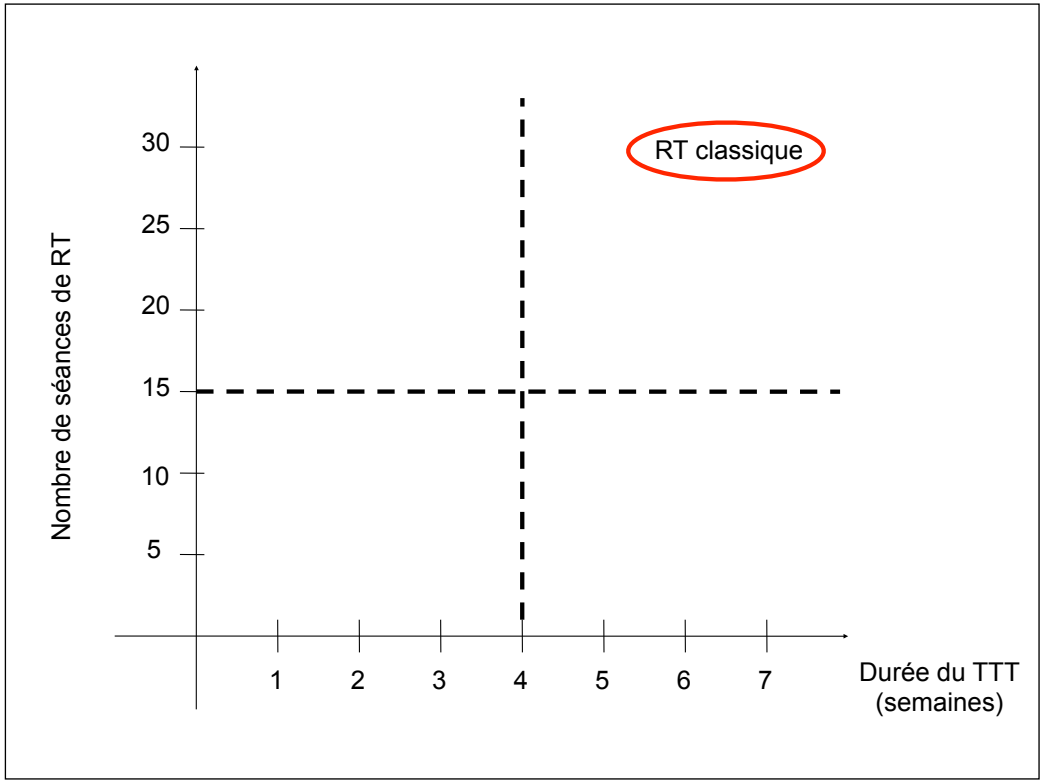
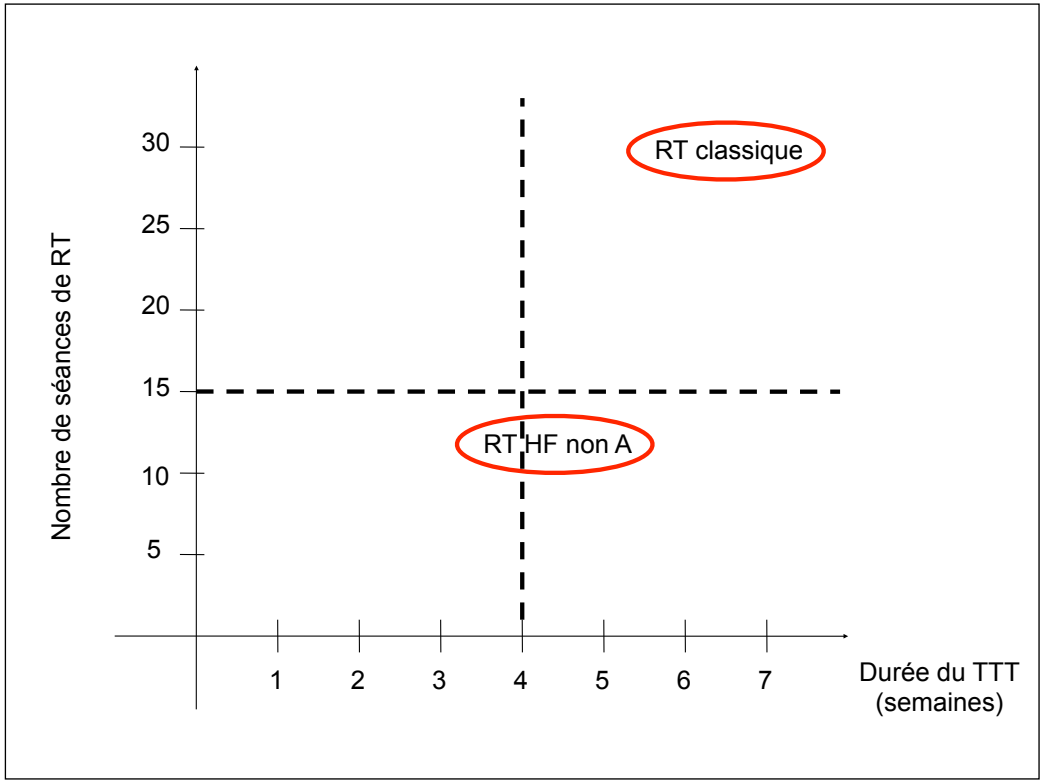
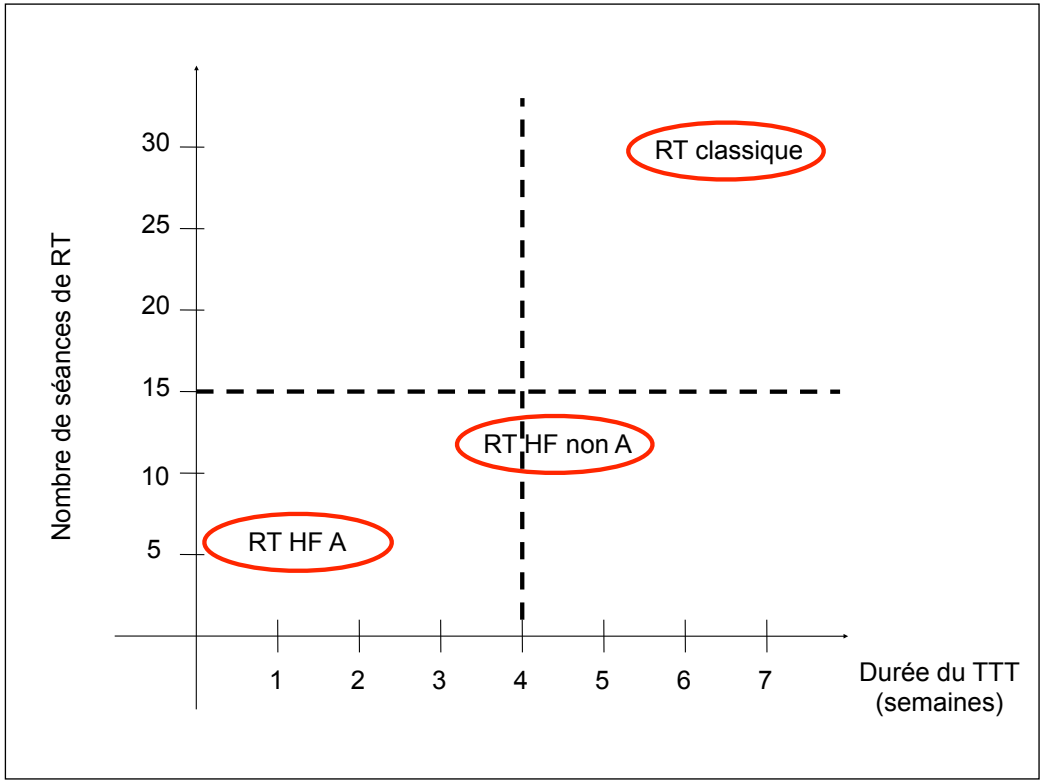

Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)


RT classique
Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)


RT classique
RT HF non A
Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)


Nombre de séances de RT
30
25
20
15
10
5
RT classique
RT HF non A
RT HF A
1
2
3
4
5
6
7
Durée du TTT
(semaines)

Essais phase III randomisés irradiation mammaire post-opératoire hypofractionnée (accélérée ou non)

Essais phase III randomisés irradiation mammaire post-opératoire hypofractionnée (accélérée ou non)

	# pts	stade	Dose/f Gy/f	f/s	Dose Totale	DTT semaines	Suivi (mois)	RL (%)	TTC (%)
START A 2008	2236	T1-3	2	5	50	5	60	4.1	17
			3.2	3	41.6	5		3.9	23
			3	3	39	5		3.2	
START B 2008	2215	T1-3	2	5	50	5	60	2.8	
			2.67	**5**	**40**	**3**		2.2	
Whelan T 2005	612	T1-2	2	5	50	5	69	3.2	
	622	T1-2	**2.65**	**5**	**42.5**	**3**		2.6	

DTT : durée totale de traitement, TTC : toxicité tardive cutanée, RL : récidive locale

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Analyses rétrospectives irradiation externe post-opératoire hypofractionnée non accélérée du cancer du sein de la femme âgée

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	# pts	sta de	Dose/f Gy/f	Dos e	DTT semai	Sui vi	RL (%	TT C
Kirova	50	T1-	6.5	32.5	5	93	6	-
2009	11	2	1	39 -	6 - 8	65	22	52
Courdi	5	T1-	6.5	52	5 - 6	65	2.3	45.

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Original article Ortholan C, *et al*. (2005)
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Abram Recht

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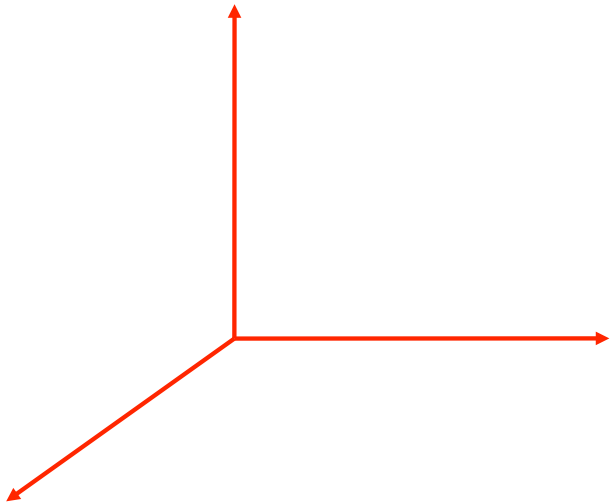
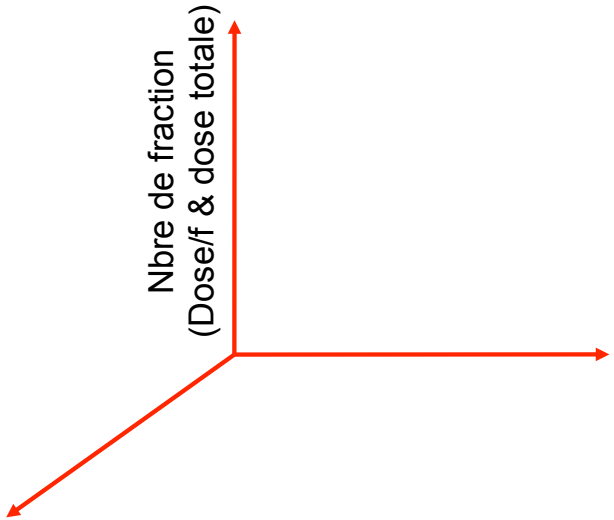
Irradiation Accélérée **DONC** Partielle du Sein

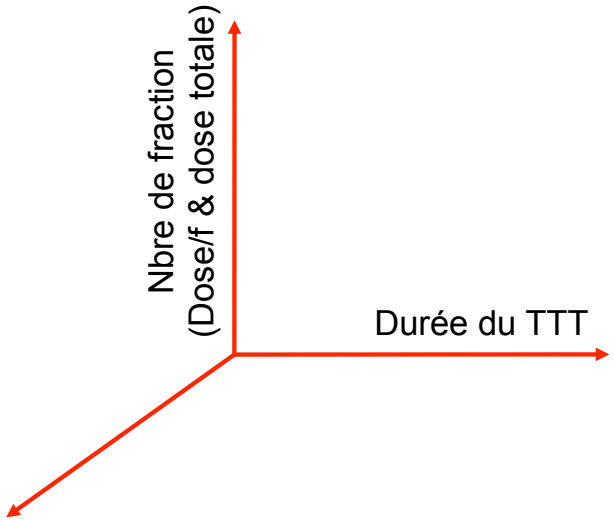
RT Hypofractionnée Accélérée en 3D



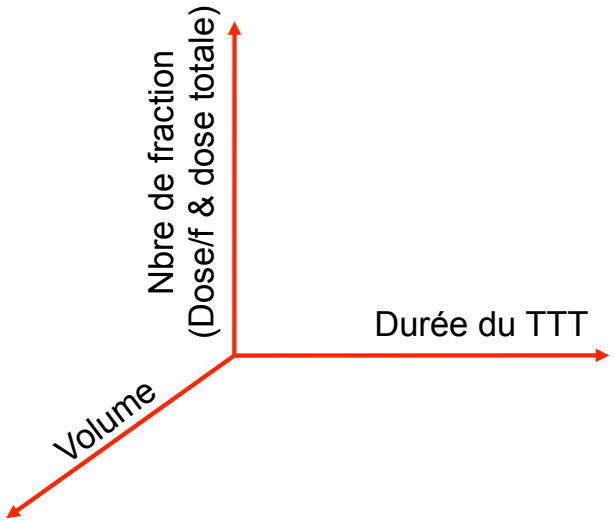
RT Hypofractionnée Accélérée en 3D

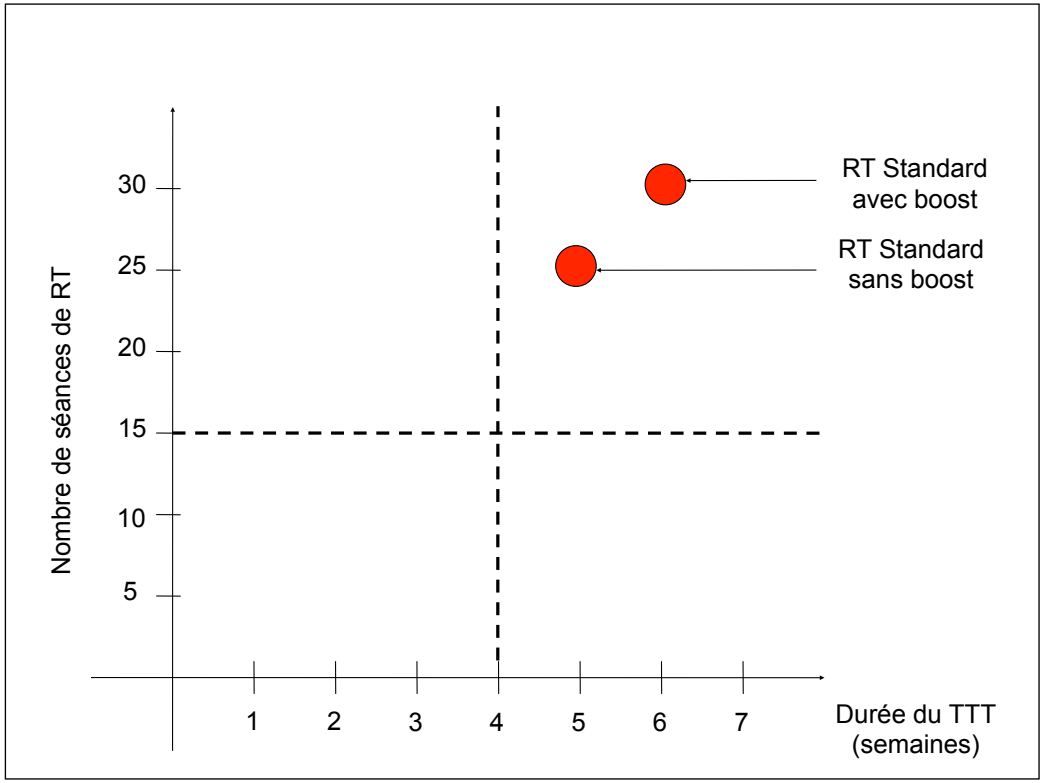


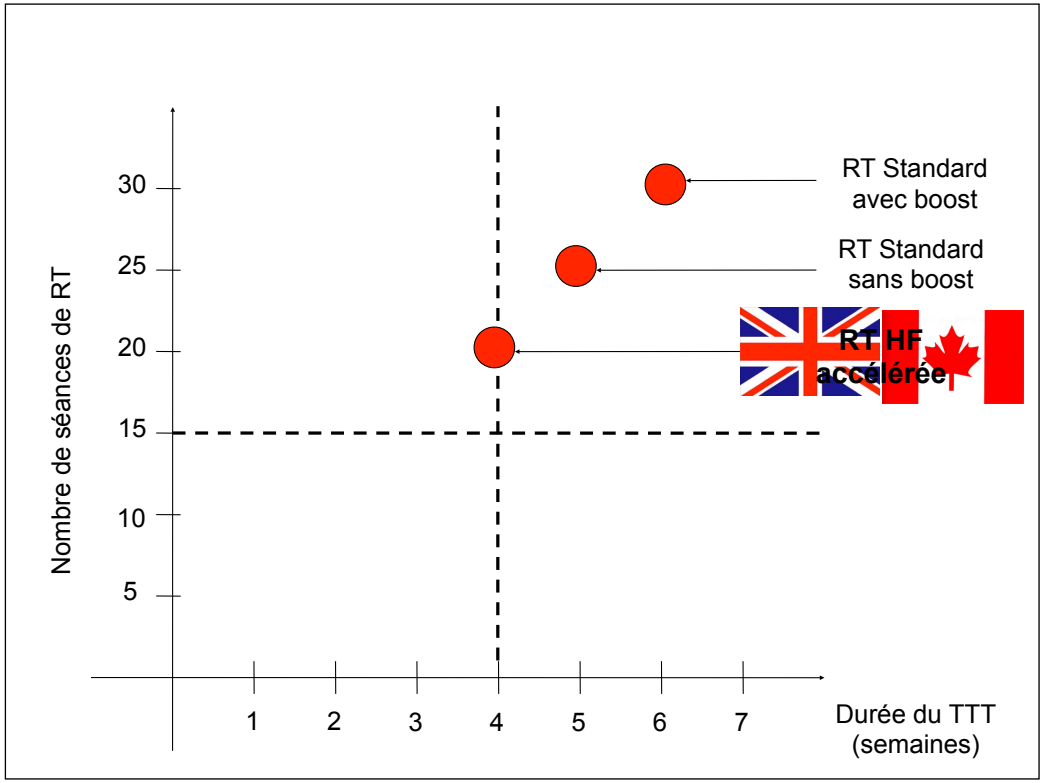
RT Hypofractionnée Accélérée en 3D

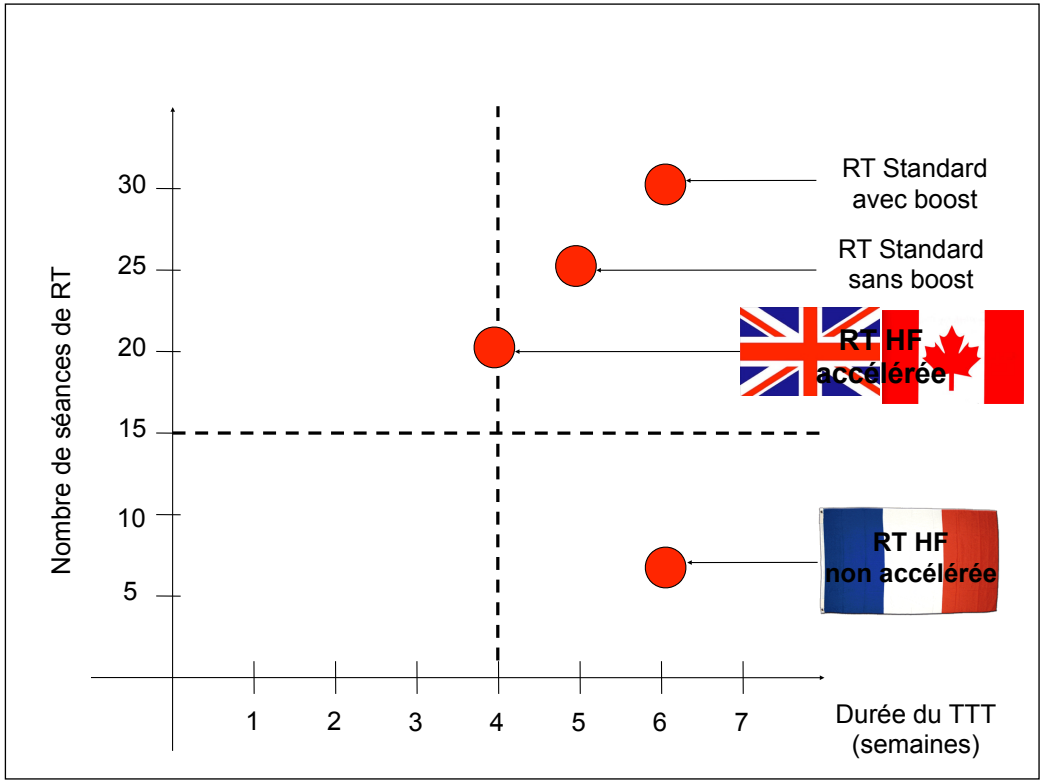


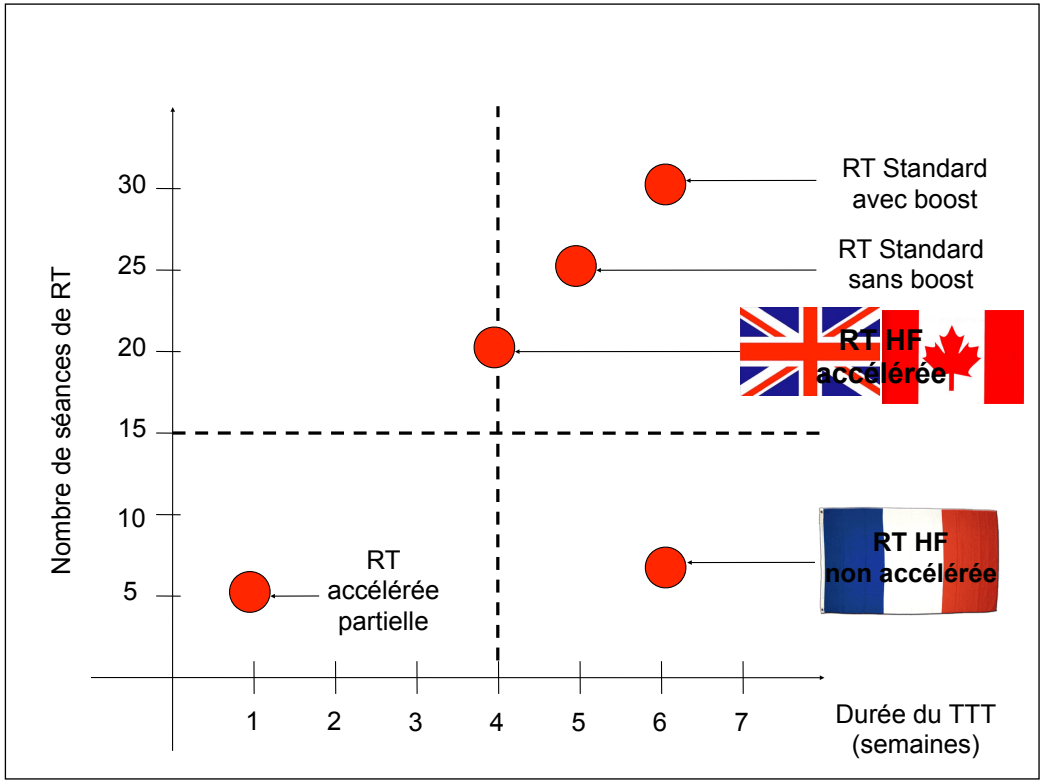
RT Hypofractionnée Accélérée en 3D

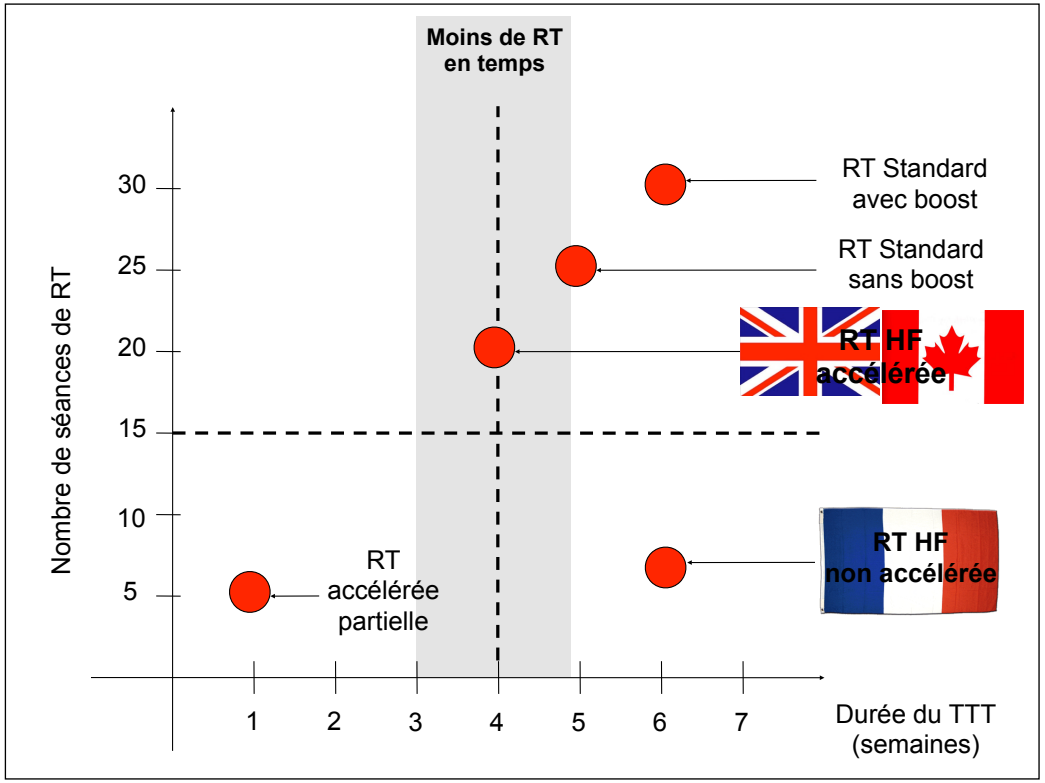


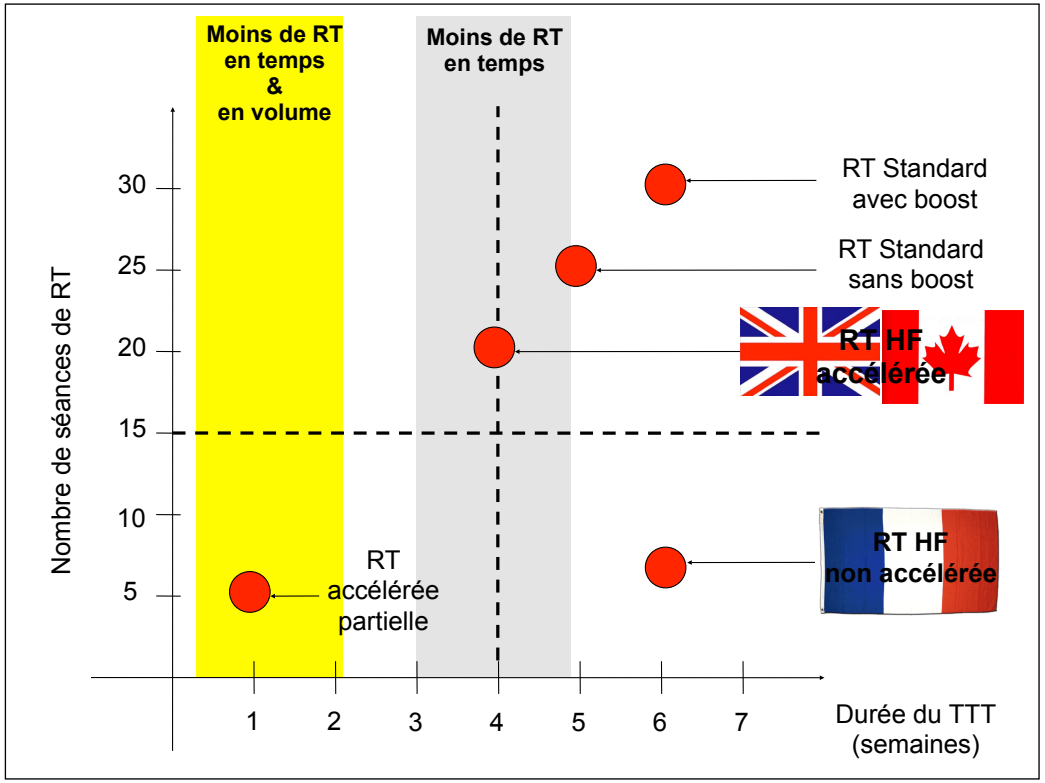

Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)
RT Standard
avec boost
RT Standard
sans boost

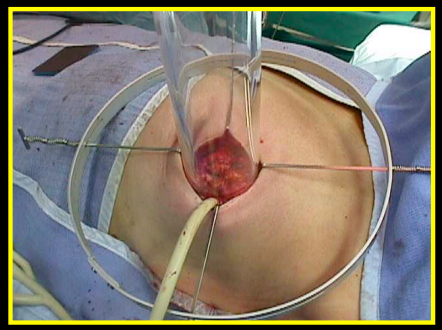

Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)
RT Standard
avec boost
RT Standard
sans boost
RT HF
accélérée

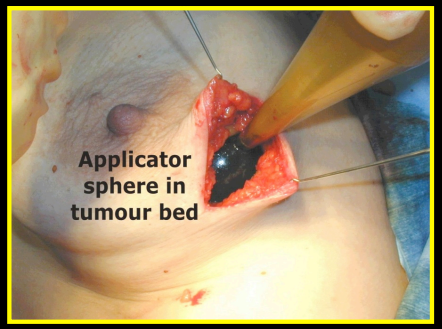

Nombre de séances de RT
30
25
20
15
10
5
1
2
3
4
5
6
7
Durée du TTT
(semaines)
RT Standard
avec boost
RT Standard
sans boost
RT HF
accélérée
RT HF
non accélérée

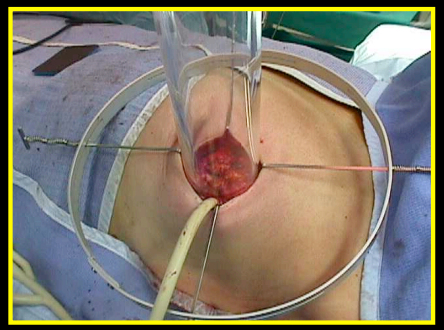

Nombre de séances de RT
30
25
20
15
10
5
RT Standard avec boost
RT Standard sans boost
RT HF accélérée
RT HF non accélérée
RT accélérée partielle
1
2
3
4
5
6
7
Durée du TTT (semaines)

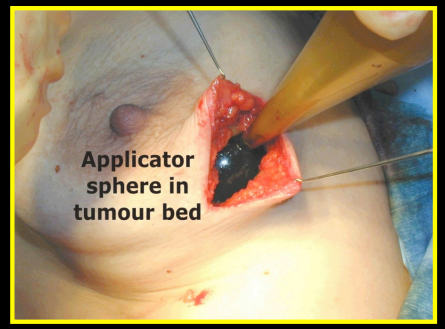

Moins de RT
en temps
Nombre de séances de RT
30
25
20
15
10
5
RT Standard
avec boost
RT Standard
sans boost
RT HF
accélérée
RT HF
non accélérée
RT
accélérée
partielle
1
2
3
4
5
6
7
Durée du TTT
(semaines)

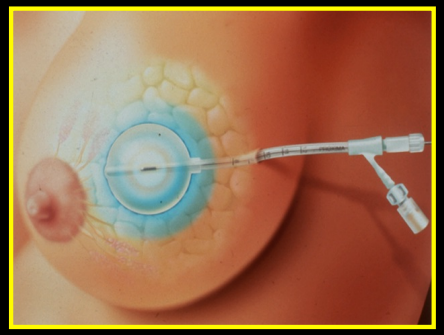

Moins de RT
en temps
&
en volume
Moins de RT
en temps
Nombre de séances de RT
30
25
20
15
10
5
RT Standard
avec boost
RT Standard
sans boost
RT HF
accélérée
RT HF
non accélérée
RT
accélérée
partielle
1
2
3
4
5
6
7
Durée du TTT
(semaines)

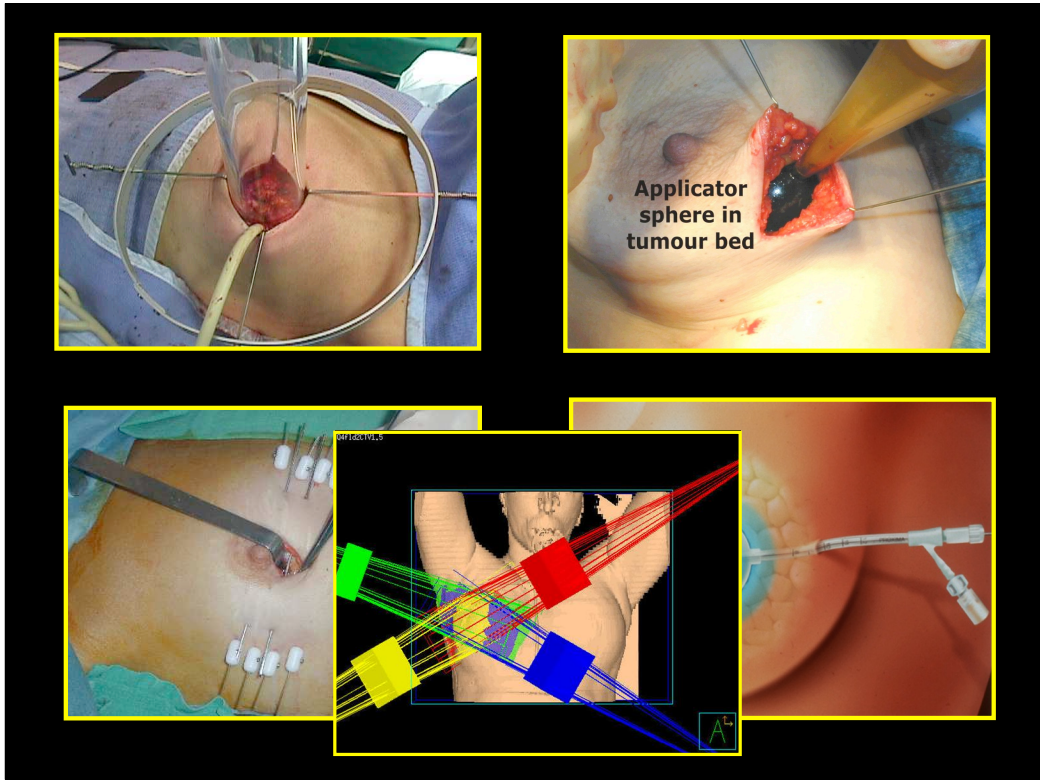


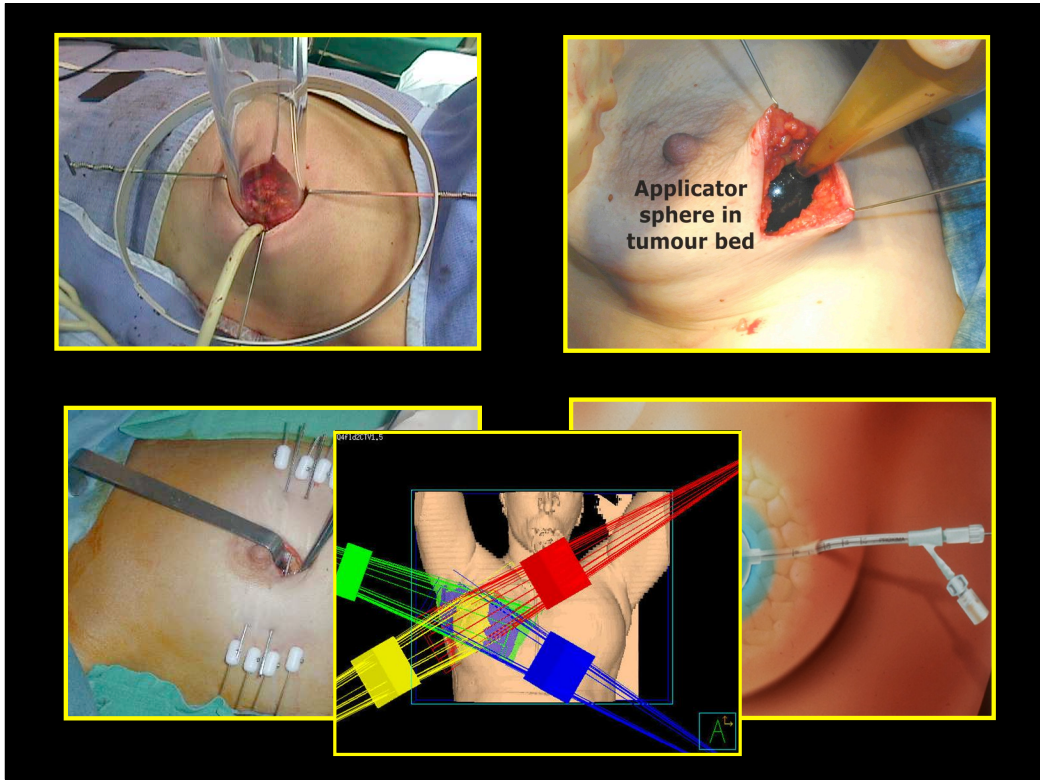

Applicator
sphere in
tumour bed




Applicator
sphere in
tumour bed




Applicator
sphere in
tumour bed


Applicator
sphere in
tumour bed

Techniques d'irradiation partielle et accélérée du sein et critères d'inclusion utilisés dans les essais

	Origine	Techniques	Dose/fraction (Gy)	Dose totale (Gy)
Eliot [18]	Milan	IO électrons	21	21
Targit [17]	Londres	IO photons 50	20	20
Gec-Estro [6]	Union européenne	Curie HDD BDD	3,4	34 HDD, 50 BDP
NSABP/RTOG [20]	États-Unis	RC3D Curie MMS	RT 3,85 ; Curie 3,4	RT 38,5, Curie 34
Import [3]	Royaume-Uni	RC3D MI		
Rapid [2]	Canada	RC3D	3,85	38,5

	# ptes	Date activation	Âge	T. tum. (mm)	# N+	Grade histo.	Lim. résec. (mm)
Eliot [18]	1200	11/2000	> 48	< 25	0	I–III	> 10
Targit [17]	2232	03/2000	> 40	< 30	0	I–III	Négative
Gec-Estro [6]	1170	05/2004	> 40	< 30	0 ou 1 μmet	I–III	> 2 inv., > 5 i.s.
NSABP/RTOG [20]	3000	03/2005	> 18	< 30	Jusqu'à 3	I–III	Négative
Import [3]	1935	09/2006	> 50	< 20	0	I et II	> 2
Rapid [2]	2128	02/2006	> 40	< 30	0	I–III	Négative

Hannoun-Levi JM et al. Cancer Radiother. 2008;12:374–379

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doi:10.1016/j.ijrobp.2009.02.031

CONSENSUS STATEMENT

ACCELERATED PARTIAL BREAST IRRADIATION CONSENSUS STATEMENT FROM THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY (ASTRO)

Benjamin D. Smith, M.D.,[*†] Douglas W. Arthur, M.D.,[‡] Thomas A. Buchholz, M.D.,[†] Bruce G. Haffty, M.D.,[§] Carol A. Hahn, M.D.,[‖] Patricia H. Hardenbergh, M.D.,[¶] Thomas B. Julian, M.D.,[#] Lawrence B. Marks, M.D.,[**] Dorin A. Todor, Ph.D.,[‡] Frank A. Vicini, M.D.,[††] Timothy J. Whelan, M.D.,[‡‡] Julia White, M.D.,[§§] Jennifer Y. Wo, M.D.,[‖‖] and Jay R. Harris, M.D.[¶¶]

Radiotherapy and Oncology 94 (2010) 264–273

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GEC-ESTRO Recommendations

Patient selection for accelerated partial-breast irradiation (APBI) after breast-conserving surgery: Recommendations of the Groupe Européen de Curiethérapie-European Society for Therapeutic Radiology and Oncology (GEC-ESTRO) breast cancer working group based on clinical evidence (2009)

Csaba Polgár[a,*], Erik Van Limbergen[b], Richard Pötter[c], György Kovács[d], Alfredo Polo[e], Jaroslaw Lyczek[f], Guido Hildebrandt[g], Peter Niehoff[h], Jose Luis Guinot[i], Ferran Guedea[j], Bengt Johansson[k], Oliver J. Ott[l], Tibor Major[a], Vratislav Strnad[l], On behalf of the GEC-ESTRO breast cancer working group

GEC-ESTRO recommendations on patient selection for APBI

Characteristic	A/low-risk group – good candidates for APBI	B/intermediate-risk group – possible candidates for APBI	C/high-risk group – contraindication for APBI
Patient age	>50 years	>40–50 years	⩽40 years
Histology	IDC, mucinous, tubular, medullary, and colloid cc.	IDC, ILC, mucinous, tubular, medullary, and colloid cc	–
ILC	Not allowed	Allowed	–
Associated LCIS	Allowed	Allowed	–
DCIS	Not allowed	Allowed	–
HG	Any	Any	–
Tumour size	pT1–2 (⩽30 mm)	pT1–2 (⩽30 mm)	pT2 (>30 mm), pT3, pT4
Surgical margins	Negative (⩾2 mm)	Negative, but close (<2 mm)	Positive
Multicentricity	Unicentric	Unicentric	Multicentric
Multifocality	Unifocal	Multifocal (limited within 2 cm of the index lesion)	Multifocal (>2 cm from the index lesion)
EIC	Not allowed	Not allowed	Present
LVI	Not allowed	Not allowed	Present
ER, PR status	Any	Any	–
Nodal status	pN0 (by SLNB or ALND[a])	pN1mi, pN1a (by ALND[a])	pNx; ⩾pN2a (4 or more positive nodes)
Neoadjuvant chemotherapy	Not allowed	Not allowed	If used

APBI = accelerated partial-breast irradiation; IDC = invasive ductal carcinoma; ILC = invasive lobular carcinoma; LCIS = lobular carcinoma in situ; DCIS = ductal carcinoma in situ; HG = histologic grade; EIC = extensive intraductal component; LVI = lympho-vascular invasion; ER = estrogen receptor; PR = progesterone receptor; SLNB = sentinel lymph node biopsy.

[a] ALND = axillary lymph node dissection (at least 6 nodes pathologically examined).

Polgár C et al. Radiother. Oncol. 2010;94:264–273

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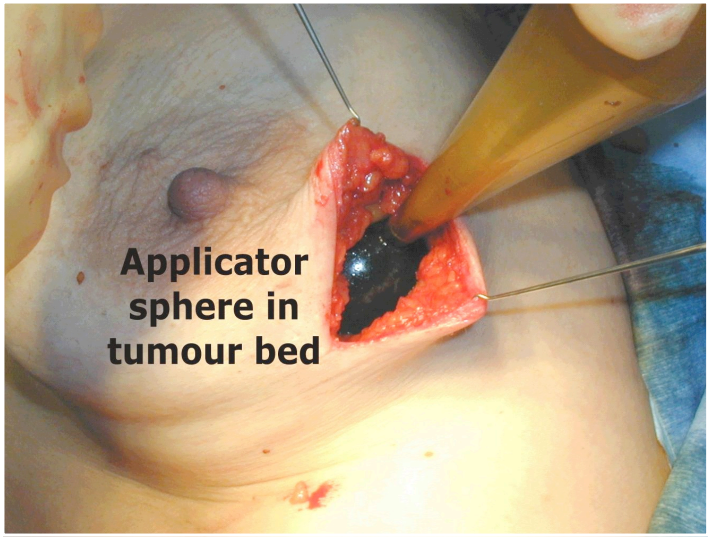
∀ Techniques

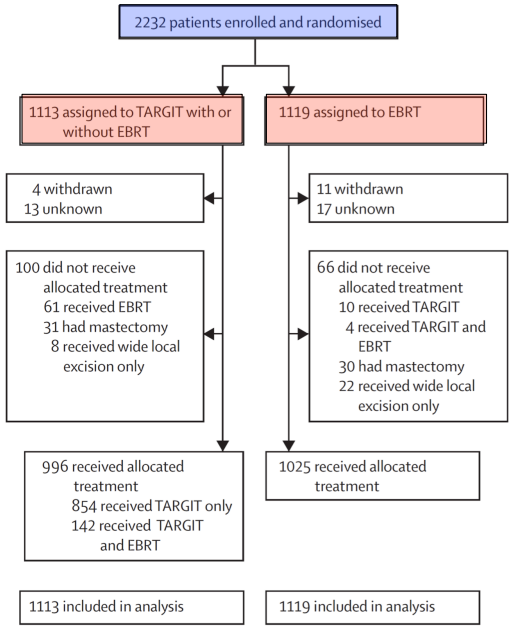
Intra-opératoires

Post-opératoires

INTRABEAM

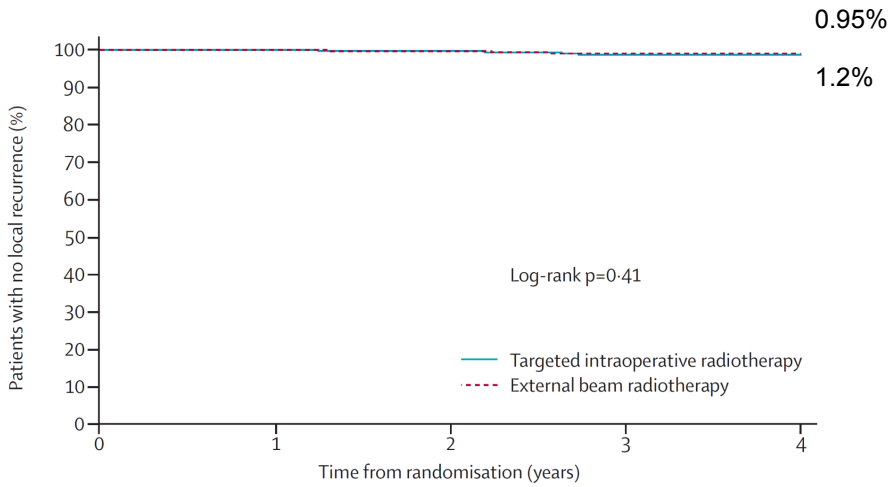

Applicator
sphere in
tumour bed

Targeted Intraoperative Radiotherapy (TARGIT-A trial)



Vaidya JS et al. Lancet 2010;376:91–102

Survie sans rechute locale à 4 ans



Vaidya JS et al. Lancet 2010;376:91–102

Conclusions / Perspectives

Conclusions / Perspectives

✓ RTH post-opératoire

Niveau de preuve A

Conclusions / Perspectives

- ✓ RTH post-opératoire

  Niveau de preuve A

- ✓ ↓ RTH en temps

  Niveau de preuve A

Conclusions / Perspectives

- ✓ RTH post-opératoire

  Niveau de preuve A

- ✓ ↓ RTH en temps

  Niveau de preuve A

- ✓ ↓ RTH en temps & en volume

  Niveau de preuve B

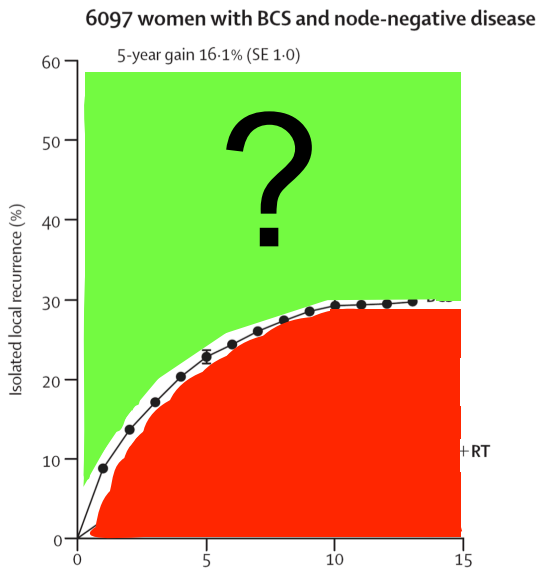
Conclusions / Perspectives

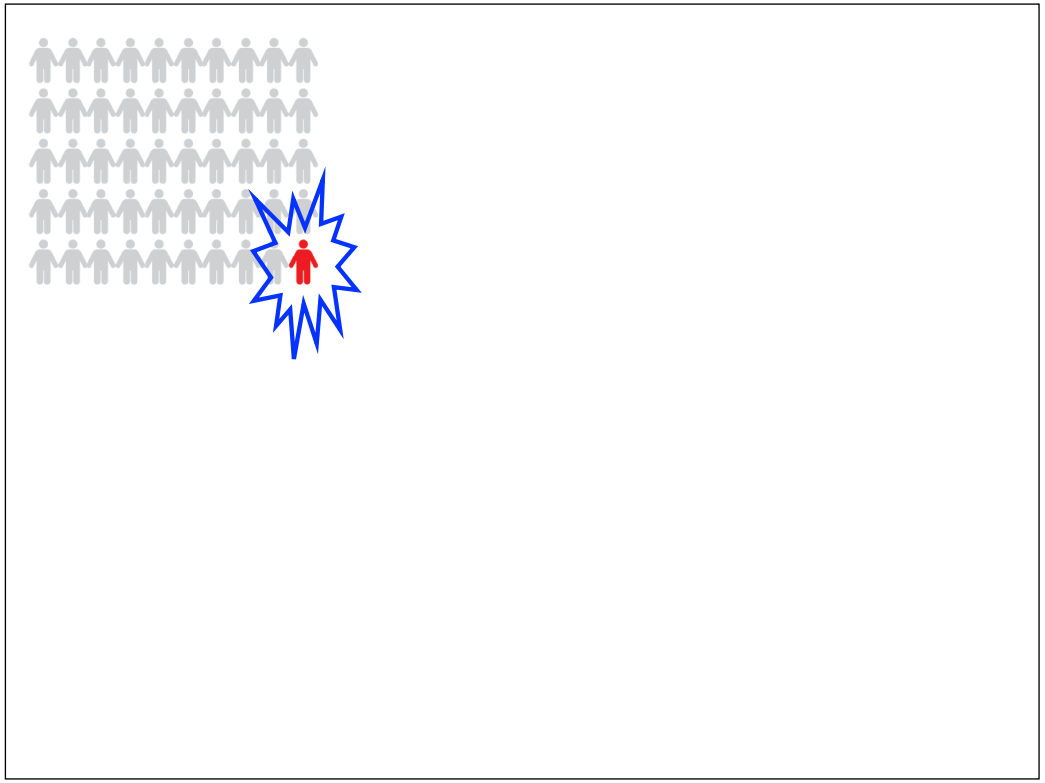
- ✓ RTH post-opératoire

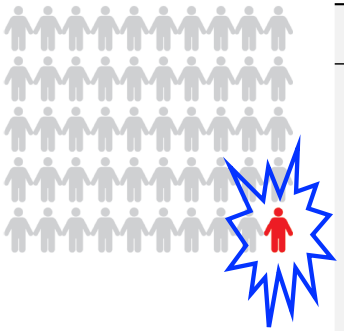
  Niveau de preuve A
- ✓ ↓ RTH en temps

  Niveau de preuve A
- ✓ ↓ RTH en temps & en volume

  Niveau de preuve B
- ✓ Valorisation des irradiations


6097 women with BCS and node-negative disease
5-year gain 16·1% (SE 1·0)
Isolated local recurrence (%)
60
50
40
30
20
10
0
0
5
10
15
+RT





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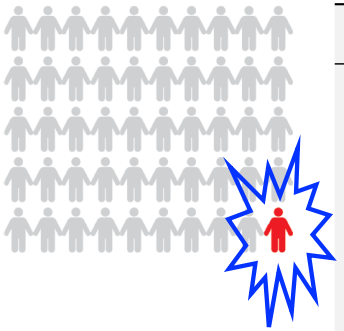
Patient age	>50 years
Histology	IDC, mucinous, tubular, medullary, and colloid cc.
ILC	Not allowed
Associated LCIS	Allowed
DCIS	Not allowed
HG	Any
Tumour size	pT1–2 (⩽30 mm)
Surgical margins	Negative (⩾2 mm)
Multicentricity	Unicentric
Multifocality	Unifocal
EIC	Not allowed
LVI	Not allowed
ER, PR status	Any
Nodal status	pN0 (by SLNB or ALND[a])
Neoadjuvant chemotherapy	Not allowed



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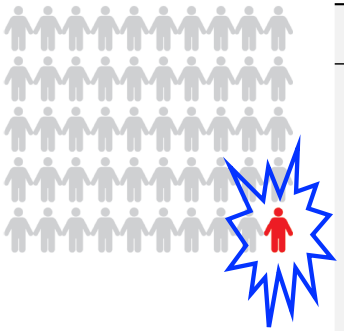

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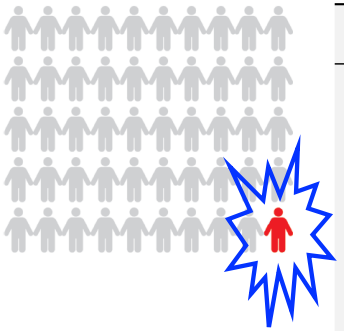

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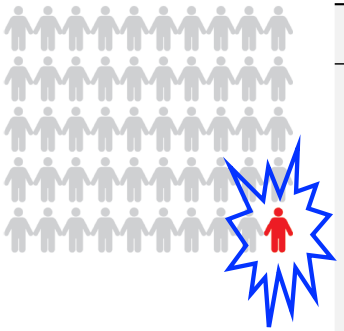

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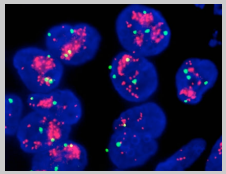
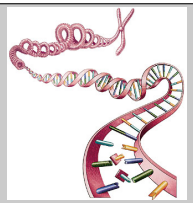
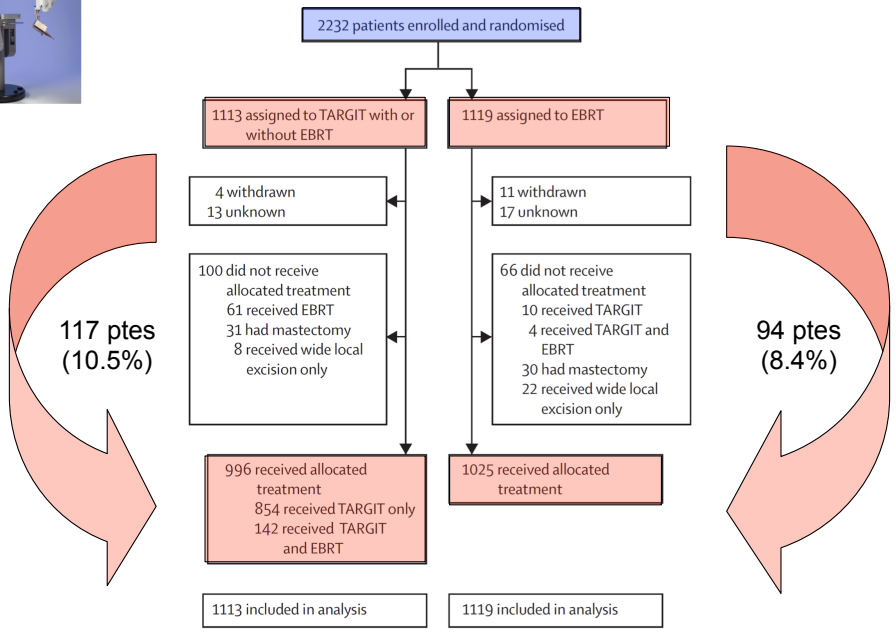




Merci de votre attention



Vaidya JS et al. Lancet 2010;376:91–102

2232 patients enrolled and randomised

1113 assigned to TARGIT with or without EBRT

1119 assigned to EBRT

4 withdrawn
13 unknown

11 withdrawn
17 unknown

100 did not receive allocated treatment
61 received EBRT
31 had mastectomy
8 received wide local excision only

66 did not receive allocated treatment
10 received TARGIT
4 received TARGIT and EBRT
30 had mastectomy
22 received wide local excision only

117 ptes (10.5%)

94 ptes (8.4%)

996 received allocated treatment
854 received TARGIT only
142 received TARGIT and EBRT

1025 received allocated treatment

1113 included in analysis

1119 included in analysis

142 ptes (14.3%) (expected 15% of patients)

Vaidya JS et al. Lancet 2010;376:91–102

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ASTRO recommendations : Age, RH & Her2 status

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