



# Recorrência bioquímica no Câncer de Próstata –

## Não escolho tratamento local

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# Recorrência bioquímica no Câncer de Próstata –

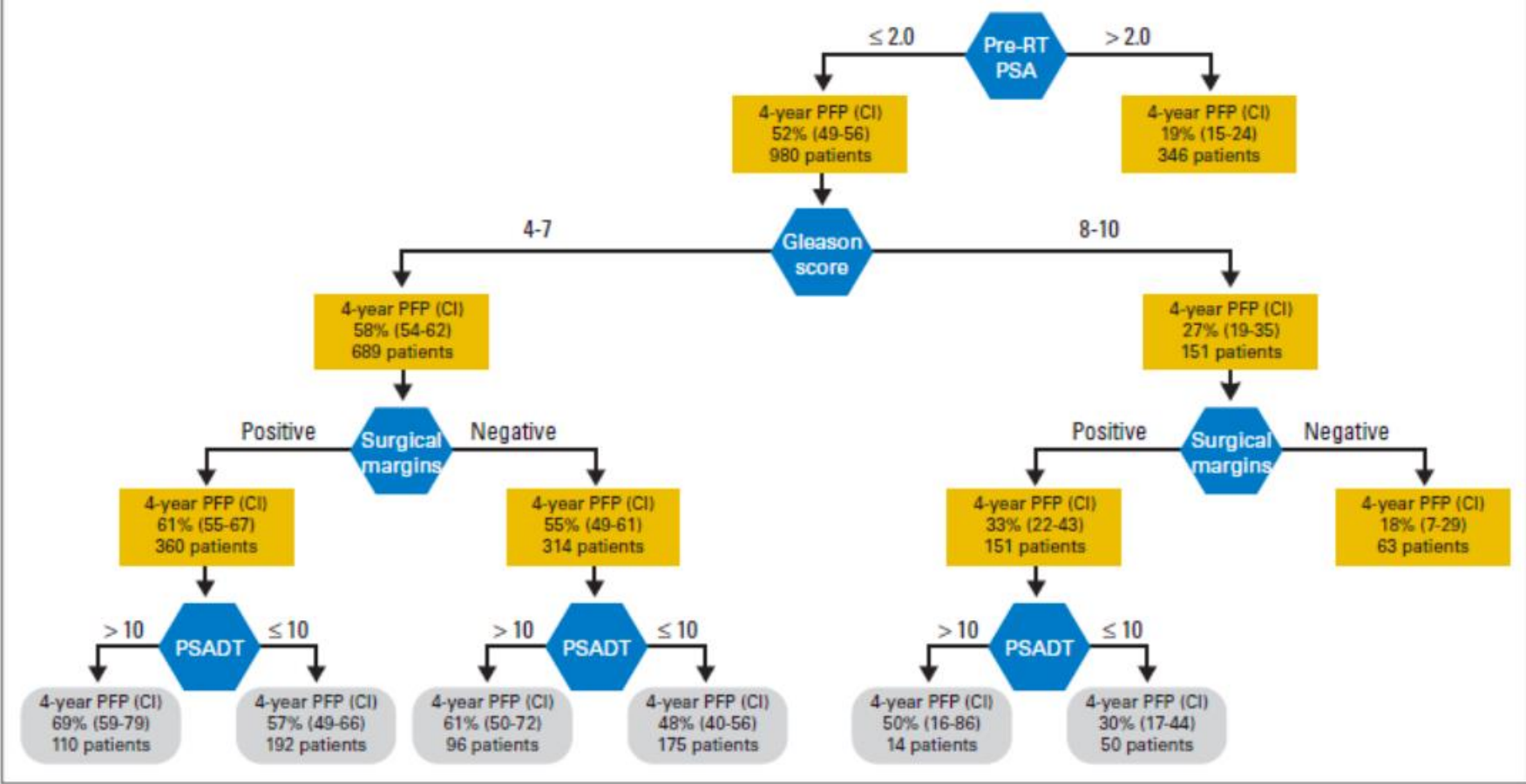
Não escolho tratamento local *de rotina*

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# RT de salvamento para recorrência bioquímica após Prostatectomia Radical - Nomograma

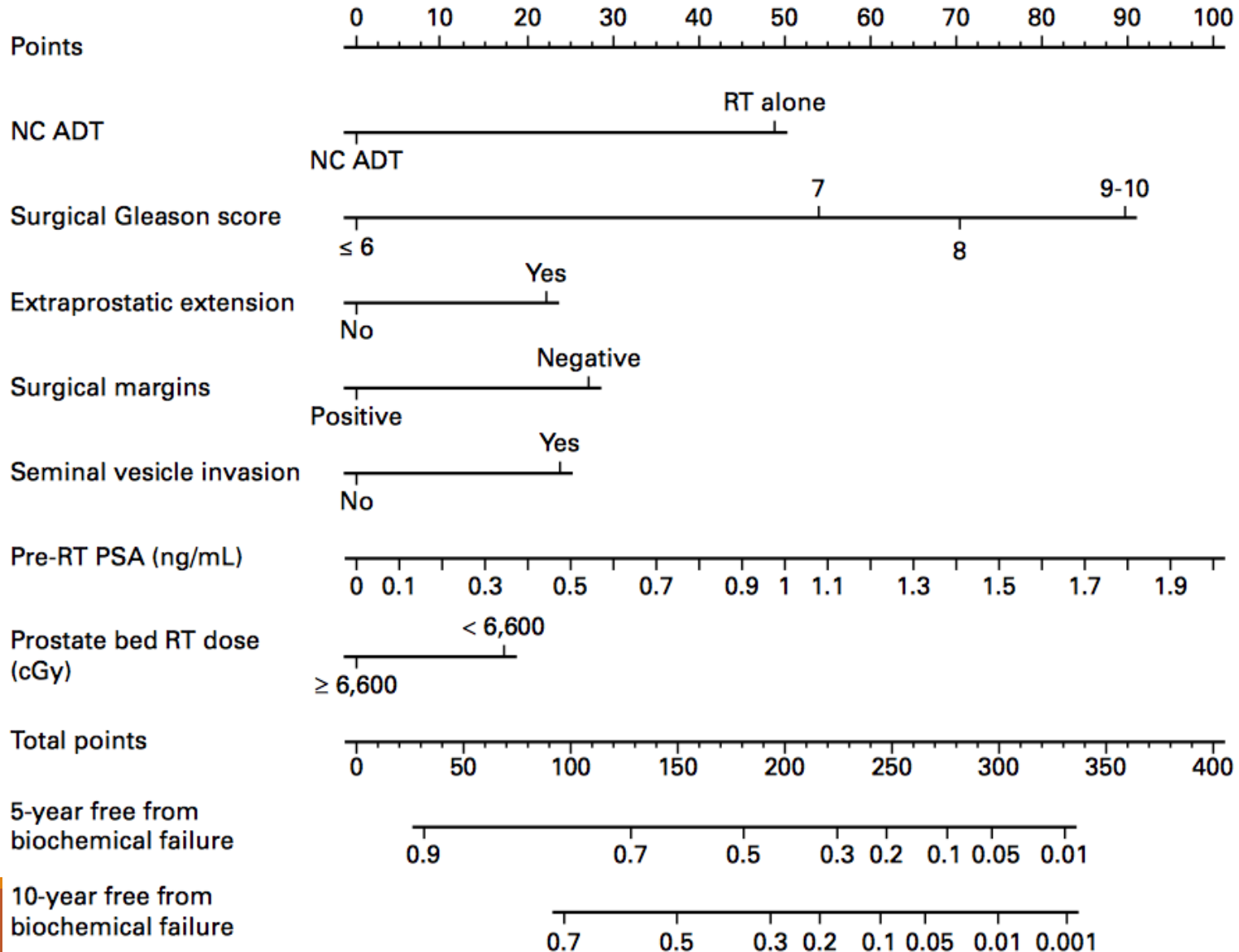


**Fig 2.** Four-year progression-free probability after salvage radiotherapy for 1,326 patients who did not receive androgen-deprivation therapy before or during radiation therapy, stratified by preradiotherapy prostate-specific antigen (PSA), Gleason score, surgical margins, and PSA doubling time (PSADT). RT, radiotherapy; PFP, progression-free probability; CI, 95% CI.

# RT de salvamento para recorrência bioquímica após Prostatectomia



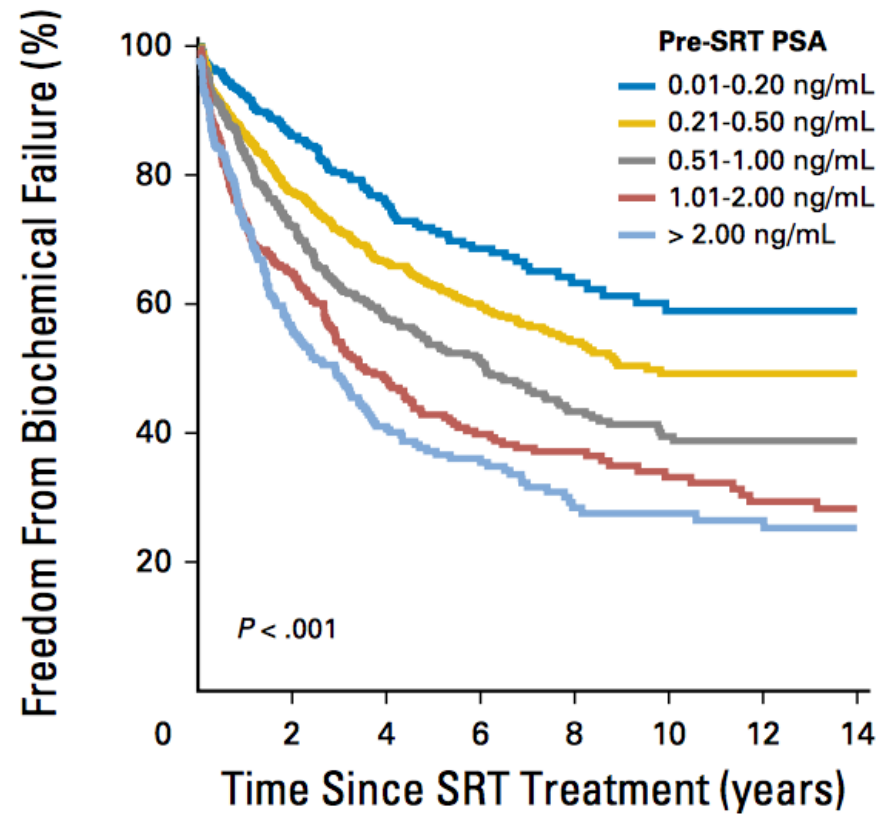
## Radical - Nomograma



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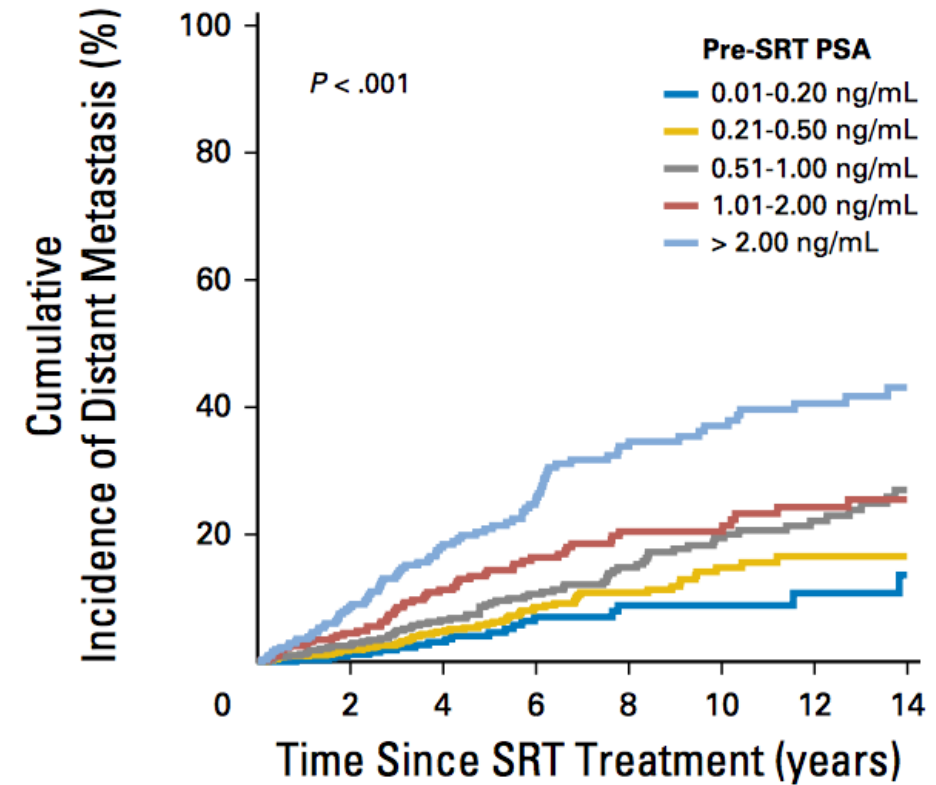


# RT de salvamento para recorrência bioquímica após Prostatectomia Radical - Nomograma



No. at risk by pre-SRT PSA

0.01-0.20 ng/mL	441	283	168	108	62	41	23	15
0.21-0.50 ng/mL	822	513	339	203	121	65	34	14
0.51-1.00 ng/mL	533	314	203	138	82	51	32	22
1.01-2.00 ng/mL	341	184	112	70	47	30	20	11
> 2.00 ng/mL	323	145	83	53	26	19	14	5



No. at risk by pre-SRT PSA

0.01-0.20 ng/mL	441	318	202	137	87	60	32	21
0.21-0.50 ng/mL	822	636	462	304	201	109	55	23
0.51-1.00 ng/mL	533	419	319	238	162	110	75	41
1.01-2.00 ng/mL	341	272	210	148	102	71	54	36
> 2.00 ng/mL	323	234	167	120	75	57	40	22

# Ga-68 PSMA PET-CT em Câncer de Próstata com Recorrência Bioquímica – Pós Prostatectomia

**Table 2** Detection rates of  $^{68}\text{Ga}$ -PSMA PET/CT after radical prostatectomy.

PSA level	n	No. of patients positive	Detection rate (%)
0.01 to <0.2	124	14	11.3
0.2 to <0.5	79	21	26.6
0.5 to <1	45	24	53.3
1 to <2	43	34	79.1
$\geq 2$	134	128	95.5
Total	425	221	52.0

# Ga-68 PSMA PET-CT em Câncer de Próstata com Recorrência Bioquímica – Pós Prostatectomia

**Table 3** Regions of detection post RP.

PSA level	Local (%)	Nodal (%)	Bone (%)	Visceral (%)
0.01 to < 0.2 <i>n</i> = 14	3 (21.4)	9 (64.3)	2 (14.3)	0
0.2 to <0.5 <i>n</i> = 21	6 (28.6)	10 (47.6)	5 (23.8)	0
0.5 to <1 <i>n</i> = 24	7 (29.2)	17 (70.8)	2 (8.3)	1 (4.2)
1 to < 2 <i>n</i> = 34	11 (32.4)	19 (55.9)	9 (26.5)	0
≥2 <i>n</i> = 128	29 (22.7)	95 (74.2)	30 (23.4)	5 (3.9)
<b>TOTAL</b> <i>n</i> = 425	56	150	48	6

# Ga-68 PSMA PET-CT em Câncer de Próstata com Recorrência Bioquímica – Pós Radioterapia

**Table 5** Detection rates of  $^{68}$  Ga-PSMA PET/CT after primary radiotherapy.

PSA level	<i>n</i>	No. of patients positive	Detection rate (%)
0.01 to <0.5	3	1	33.3
0.5 to <1	7	5	71.4
1 to <2	15	14	93.3
$\geq 2$	82	82	100
Total	107	102	95.3



# Ga-68 PSMA PET-CT em Câncer de Próstata com Recorrência Bioquímica – Pós Radioterapia

**Table 6** Regions of detection post primary radiotherapy.

PSA level	Local (%)	Nodal (%)	Bone (%)	Visceral (%)
0.01 to <0.5 <i>n</i> = 1	1 (100)	0	0	0
0.5 to <1 <i>n</i> = 5	3 (60.0)	1 (20.0)	1 (20.0)	0
1 to < 2 <i>n</i> = 14	8 (53.3)	5 (35.7)	2 (14.3)	1 (0.7)
≥2 <i>n</i> = 82	64 (78.0)	37 (45.1)	15 (18.3)	0
Total	76	43	18	1

# Ressonância Magnética multiparamétrica como fator preditivo independente para evolução após RT salvamento



Recorrência de PSA após RT salvamento – mpMRI melhora o nomograma de Stephenson

	Multivariable model without MRI (C = 0.66)	Multivariable model with MRI (C = 0.69)
<b>Updated Stephenson nomogram variables ± mpMRI</b>		
Extracapsular extension	HR 1.18 ( <i>p</i> = 0.47)	HR 1.21 ( <i>p</i> = 0.40)
Seminal vesicle invasion	HR 2.18 ( <i>p</i> < 0.01)	HR 2.07 ( <i>p</i> < 0.01)
Positive margin	HR 0.61 ( <i>p</i> = 0.02)	HR 0.63 ( <i>p</i> = 0.04)
pGleason score		
6 (grade group 1)	REF	REF
7 (grade group 2–3)	HR 2.70 ( <i>p</i> = 0.02)	HR 2.75 ( <i>p</i> = 0.03)
8–10 (grade group 4–5)	HR 4.02 ( <i>p</i> < 0.01)	HR 4.01 ( <i>p</i> < 0.01)
PSA at sXRT	HR 1.17 ( <i>p</i> = 0.05)	HR 1.16 ( <i>p</i> = 0.10)
>66 vs ≤66 Gy dose	HR 0.91 ( <i>p</i> = 0.74)	HR 1.12 ( <i>p</i> = 0.70)
ADT with sXRT	HR 0.62 ( <i>p</i> = 0.02)	HR 0.70 ( <i>p</i> = 0.10)
mpMRI		
VUA/SV/prostatic fossa	N/A	REF
No lesion	N/A	HR 2.00 ( <i>p</i> < 0.01)

ADT = androgen deprivation therapy; HR = hazard ratio; mpMRI = multiparametric pelvic magnetic resonance imaging; MRI = magnetic resonance imaging; N/A = not available; PSA = prostate-specific antigen; REF = reference; RP = radical prostatectomy; SV = seminal vesical; sXRT = salvage radiotherapy; VUA = vesicourethral.

# Ressonância Magnética multiparamétrica como fator preditivo independente para evolução após RT salvamento



**Metástases** após RT salvamento – mpMRI melhora o nomograma de Stephenson

	Multivariable model without MRI (C = 0.65)	Multivariable model with MRI (C = 0.67)
<b>Updated Stephenson nomogram variables ± mpMRI</b>		
Extracapsular extension	Not retained	Not retained
Seminal vesicle invasion	Not retained	Not retained
Positive margin	Not retained	Not retained
pGleason score*		
6 (grade group 1)	REF	REF
7 (grade group 2–3)	HR 1.71 ( <i>p</i> = 0.25)	HR 1.68 ( <i>p</i> = 0.28)
8–10 (grade group 4–5)	HR 4.41 ( <i>p</i> < 0.01)	HR 4.65 ( <i>p</i> < 0.01)
PSA at sXRT	Not retained	Not retained
>66 vs ≤66 Gy dose	HR 0.26 ( <i>p</i> = 0.04)	HR 0.21 ( <i>p</i> = 0.03)
ADT with sXRT	Not retained	Not retained
mpMRI		
VUA/SV/prostatic fossa	N/A	REF
No lesion	N/A	HR 1.82 ( <i>p</i> = 0.02)

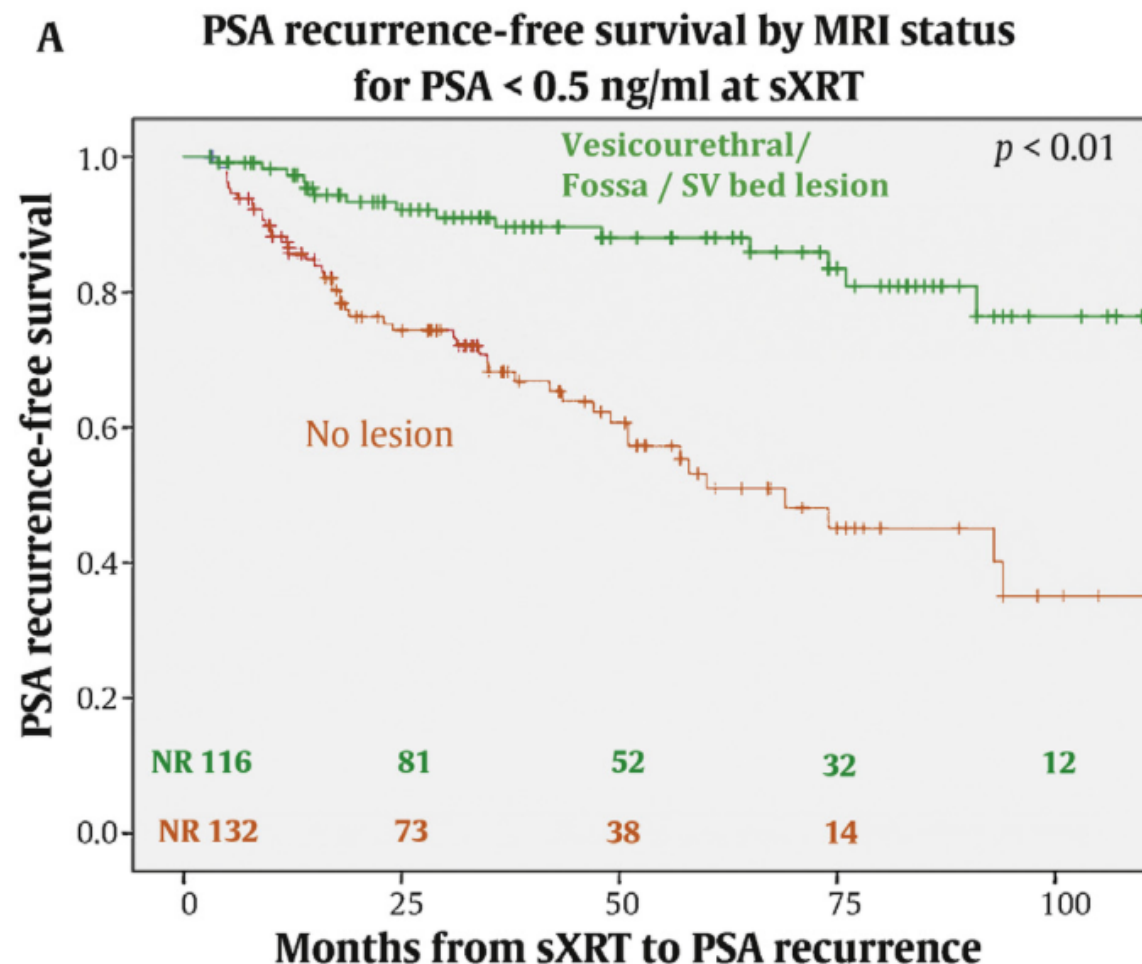
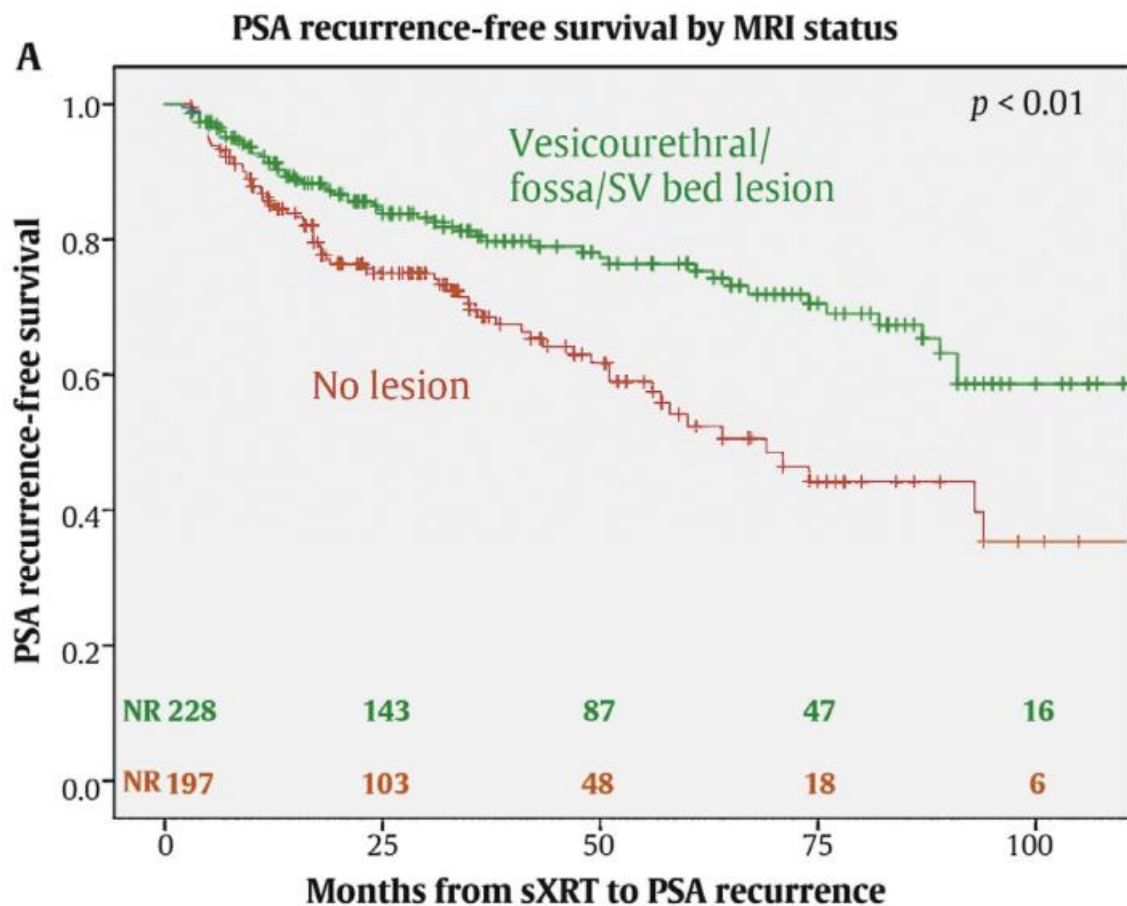
ADT = androgen deprivation therapy; HR = hazard ratio; mpMRI = multiparametric pelvic magnetic resonance imaging; MRI = magnetic resonance imaging; N/A = not available; PSA = prostate-specific antigen; REF = reference; RP = radical prostatectomy; SV = seminal vesical; sXRT = salvage radiotherapy; VUA = vesicourethral.

\* The *p* value for Gleason score as a whole was *p* 0.01 for the forward stepwise models, and this was driven by the Gleason 8–10 versus 6 comparison.

# Ressonância Magnética multiparamétrica como fator preditivo independente para evolução após RT salvamento



Recorrência PSA de acordo com resultado da mpMRI



# CONCLUSÕES

Portanto:

1. Não escolho tratamento local *de rotina* no tratamento de recorrência bioquímica
2. Escolho, *sempre que disponível e acessível*, PET-CT Ga68-PSMA e mpMRI

*PS: Possivelmente o PET-CT Ga68-PSMA + mpMRI tem menor custo do que a RT de salvamento*