THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

SARC

The Medical Treatment of STS

Robert S. Benjamin, M.D.

Department of Sarcoma Medical Oncology

The SARCOMA Center

Connective Tissue Oncology Society

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The Medical Treatment of STS
A Whirlwind Tour

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Disclosures

- No relevant disclosures

The First Rule of Sarcoma Therapy

- Management of Sarcomas is a Team Sport

The Multidisciplinary Sarcoma Team

- Diagnostic
  - Imaging
  - Pathology
- Therapeutic
  - Surgery
  - Radiation Oncology
  - Medical Oncology

Soft-tissue Sarcomas
Systemic Therapy

- Adriamycin (doxorubicin)
- ADIC (adriamycin-dacarbazine)
- Ifosfamide
- Adriamycin - ifosfamide

Soft-tissue Sarcomas
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- Gemcitabine +/- docetaxel

Soft-tissue Sarcomas
Systemic Therapy

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- Gemcitabine +/- docetaxel
- Trabectidin

Soft-tissue Sarcomas
Systemic Therapy

- Adriamycin (doxorubicin)
- ADIC (adriamycin-dacarbazine)
- Ifosfamide
- Adriamycin - ifosfamide
- Gemcitabine +/- docetaxel
- Pazopanib
- Trabectidin
- Eribulin

ADRIAMYCIN IN SOFT TISSUE SARCOMAS

Cell Type	# Pts	# Responses	% Response
Rhabdomyosarcoma	79	21	27
Fibro & Neurofibrosarcoma	38	6	24
Leiomyosarcoma	37	12	32
Synovial Cell Sarcoma	22	4	32
Liposarcoma	19	6	32
Angiosarcoma	9	4	44
Undifferentiated Sarcoma	16	3	19
Unspecified & Misc	130	31	24
ALL SOFT TISSUE SARCOMAS	357	96	27

ADRIAMYCIN-DTIC
SWOG 445

FINAL ANALYSIS BY DIAGNOSIS

	# Eval	CR/PR	% All R/Eval
Angiosarcoma	9	1/2	33
Chondrosarcoma	12	---	---
Ewing's Sarcoma	2	0/1	50
Fibrosarcoma	25	3/9	48
Leiomyosarcoma	38	7/12	50
Liposarcoma	18	3/4	39
Mesothelioma	9	0/4	44
Neurofibrosarcoma	24	3/8	46
Osteogenic	33	3/10	39
Rhabdomyosarcoma	18	3/4	39
Synovial Cell Sarcoma	9	0/5	55
Undifferentiated Sarcoma	21	2/8	48
TOTAL	218	25/67	42

IFOSFAMIDE
Response by Histology

HISTOLOGY	NO. EVAL PTS.	% CR	% OVERALL RESPONSE
UPS	31	3	19
Synovial sarcoma	16	0	31
GI leiomyosarcoma	30	3	13
Other leiomyosarcoma	22	0	9
Unclassified sarcoma	29	3	21

Benjamin et al, CCP 31:S174-179, 1993

IFOSFAMIDE
Response by Histology

HISTOLOGY	NO. EVAL PTS.	% CR	% OVERALL RESPONSE
UPS	7	14	57
Fibrosarcoma	5	0	40
Synovial Sarcoma	10	0	40
Rhabdomyosarcoma	12	8	17
Other	13	0	15
Schwannoma	6	0	17
Leiomyosarcoma	27	0	7
Liposarcoma	4	0	0
Angiosarcoma	2	0	0
Carcinosarcoma	1	0	0
Extraskeletal osteosarcoma	1	0	0

Antman et al, JCO 7:126-131, 1989

IFOSFAMIDE
Response by Histology

HISTOLOGY	NO. EVAL PTS.	% OVERALL RESPONSE
Leiomyosarcoma	11	0
Neurosarcoma	7	29
Fibrosarcoma	5	80
Synovial Sarcoma	4	75
UPS	2	0
Liposarcoma	1	0
Rhabdomyosarcoma	2	50
Angiosarcoma	2	50
Unclassified	2	50

Le Cesne *et al, JCO 13:1600-1608, 1995.*

Soft-tissue Sarcomas
Phase 2 Study of Gemcitabine

- Two-arm phase 2 study, GI leios (GISTs) vs. others
- 1000 mg/m^2 i.v. by the weekly schedule
- 0/17 responses in GI Leiomyosarcomas
- 7/39 PRs (18%) in other histologies
  - 4/10 leiomyosarcomas (uterus, RP, vascular)
- Well tolerated, Median TTP=3 mo, OS=13.9 mo
- Potential for combination therapy
- Pharmacology: Time-dependent activation

Patel et al. *J Clin. Oncol.* 19:3483-89, 2001

Leiomysarcomas
Gemcitabine/Docetaxel

- 34 Patients; 29 Uterine; 16/34 prior Adriamycin
- Pharmacologically-based schedule
  - Gemcitabine 900 mg/m^2 over 90 min days 1 & 8
  - Docetaxel 100 mg/m^2 after Gemcitabine day 8 only
  - 25% dose reduction for pelvic XRT
- 3 Complete, 17 Partial Remissions (53%)
- TTP - 5.6 months

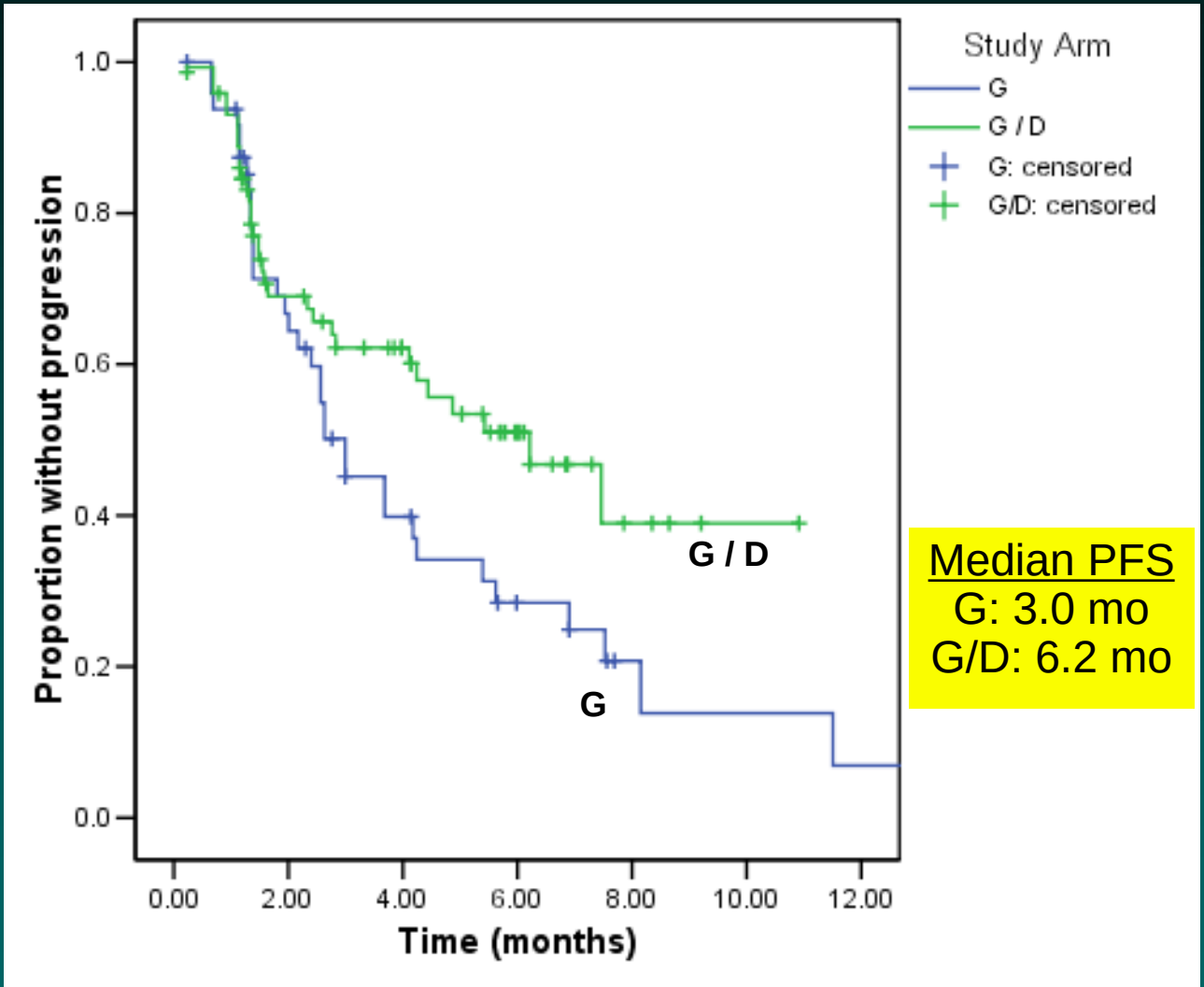
Hensley *et al*. *J Clin. Oncol.* 20: 2824-2831, 2002

RECIST "Best response" data
(intention to treat analysis with all 122 patients)

	Gem (n=49)	Gem / Doc (n=73)	TOTAL
PR/CR	4 (8%)	12 (16%)	16 (13%)
SD SD: 24 week	26 (53%) 9 (18%)	39 (53%) 11 (15%)	65 (53%) 20 (16%)
PD	18 (37%)	19 (26%)	37 (30%)

1 pt with Gem inevaluable; 3 pts with Gem/Doc inevaluable

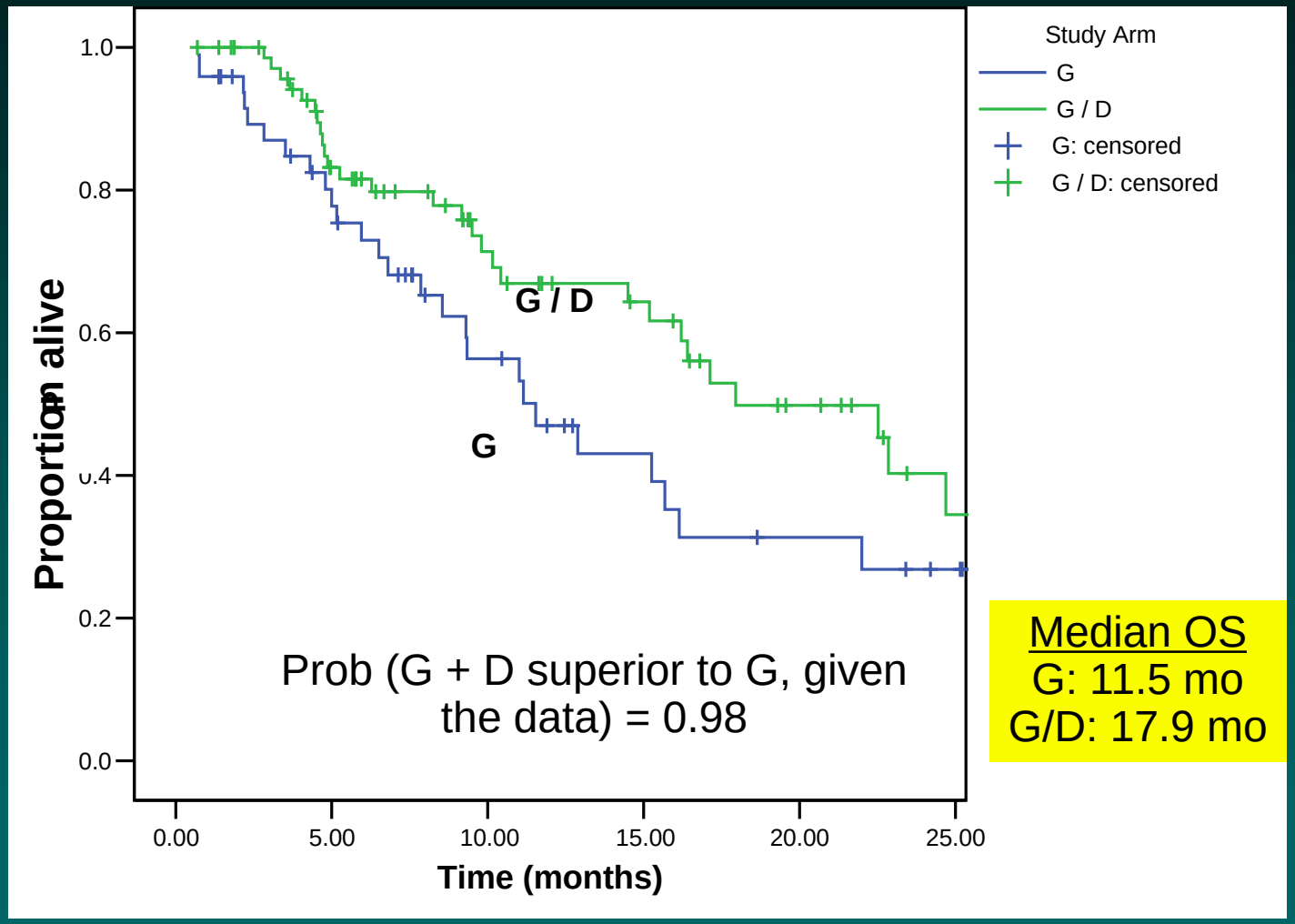
PFS: Intention to treat analysis



Median PFS
G: 3.0 mo
G/D: 6.2 mo

Prob (G+D is superior to G, given the data) is 0.98

Overall survival superior with Gem/Doc



Median OS
G: 11.5 mo
G/D: 17.9 mo

Maki et al, Oral Presentation, ASCO 2006, and *J. Clin Oncol*. 2007 25:2755-63

The TAXOGEM Study

Responses to treatment.

Table 4. Responses to treatment

	Uterine group (%)		Nonuterine group (%)	
	Gemcitabine	Gemcitabine + docetaxel	Gemcitabine	Gemcitabine + docetaxel
n	21	21	22	19
Assessable patients	21	21	22	19
Complete response, *n* (%)	1 (5)	0	0	0
Partial response, *n* (%)	3 (14)	5 (24)	3 (14)	1 (5)
Stable disease	9 (43)	10 (48)	12 (54)	11 (58)
Progression	8 (38)	6 (28)	7 (32)	7 (37)
Objective response, % (95% CI)	19 (5–42)	24 (8–47)	14 (3–35)	5 (0–26)
Nonprogression rate, % (95% CI)	62 (38–82)	71 (48–89)	68 (45–86)	63 (38–84)
Progression-free survival, % (95% CI)				
3 mos	57 (37–76)	71 (50–86)	68 (47–84)	53 (32–73)
6 mos	48 (28–68)	48 (28–68)	50 (31–69)	47 (27–68)
Median progression-free survival (mos)	5.5	4.7	6.3	3.4
Median overall survival (mos)	20	23	15	13

Abbreviation: CI, confidence interval.

Pautier P et al. The Oncologist 2012;17:1213-1220

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Response by Histology in 122 Patients

Histology	n	PR/CR	SD 24 wk
LMS	**38**	**6**	**5**
Non-uterine	27	4	3
Uterine	11	2	2
Liposarcoma	**20**	**2**	**2**
Myxoid/round cell lipo	4	0	0
WD DD lipo	13	0	2
Pleo lipo	3	2	0
UPS	**19**	**6**	**5**
Synovial	9	0	2
MPNST	6	0	1
Unclassified sarcoma	5	0	1
Angiosarcoma	3	0	0
Other	22	2	4

16%; 29%
↑ ↑
PR Success

10%; 20%
↑ ↑
PR Success

32%; 58%
↑ ↑
PR Success

4 Gem PR: LMS (1), UPS (2), Myxoid sarcoma
12 Gem / Tax PR: LMS (5), UPS (4), Pleo lipo (2), Rhabdo (1)

STS-201 Pivotal Trial design
End-points/eligibility criteria

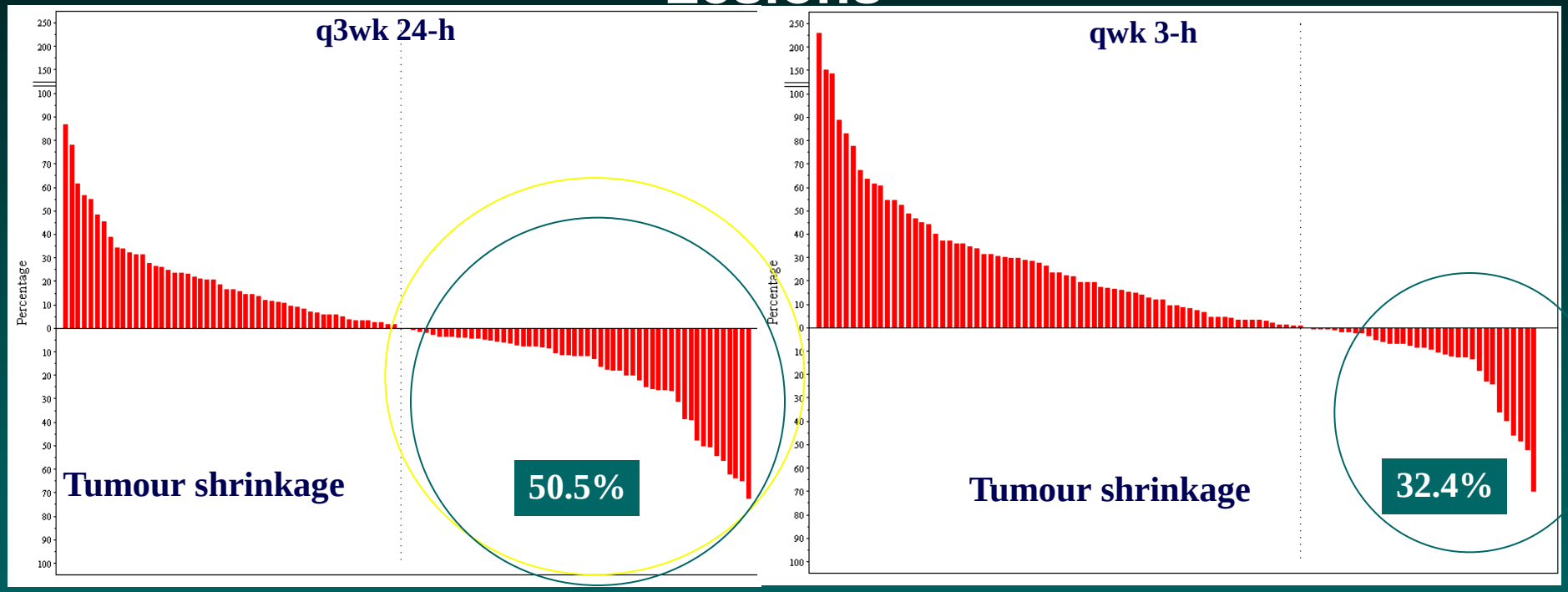
- Primary Endpoint: Time to progression (TTP) per Independent Review
- Secondary Endpoints: OS, RR, PFS, Safety, PK

- Major Inclusion Criteria
  - Metastatic or unresectable lipoS or leiomyoS
  - Previous rx with at least an anthracycline and ifosfamide
  - Failure of prior chemotherapy (disease progression)

Trabectedin: 1.5 mg/m2 24 h CI q3w
STS201 ®
Trabectedin: 0.58 mg/m2 3h wkly 3wks/4

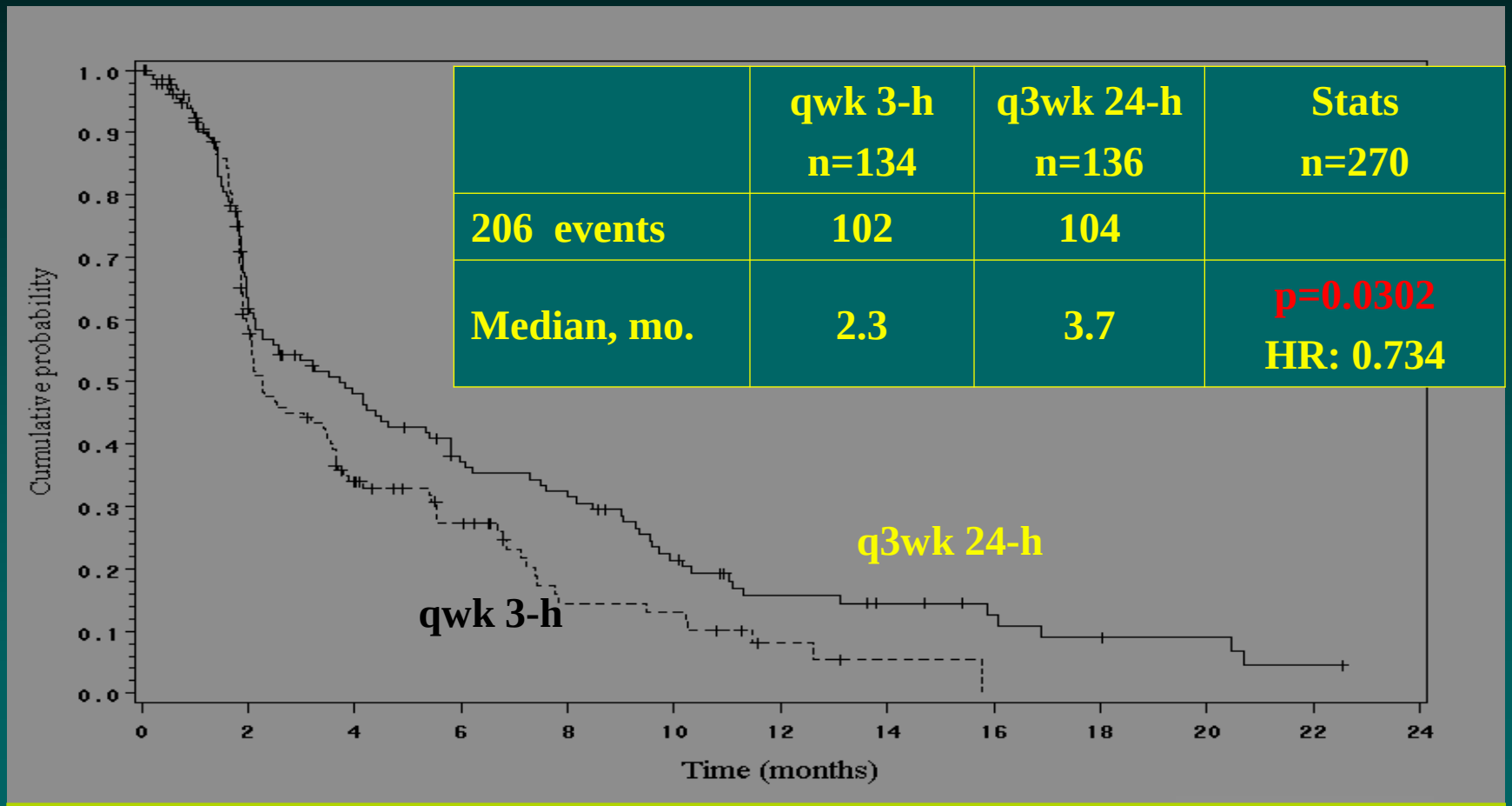
Demetri, ECCO 2007

Trial STS-201
Tumour Shrinkage
Best Tumour Size Variation from Baseline in Target Lesions



Trabectedin q3wk 24h induced significantly greater tumour shrinkage than qwk-3h (p= 0.0008; 67% pts had bulky tumours)

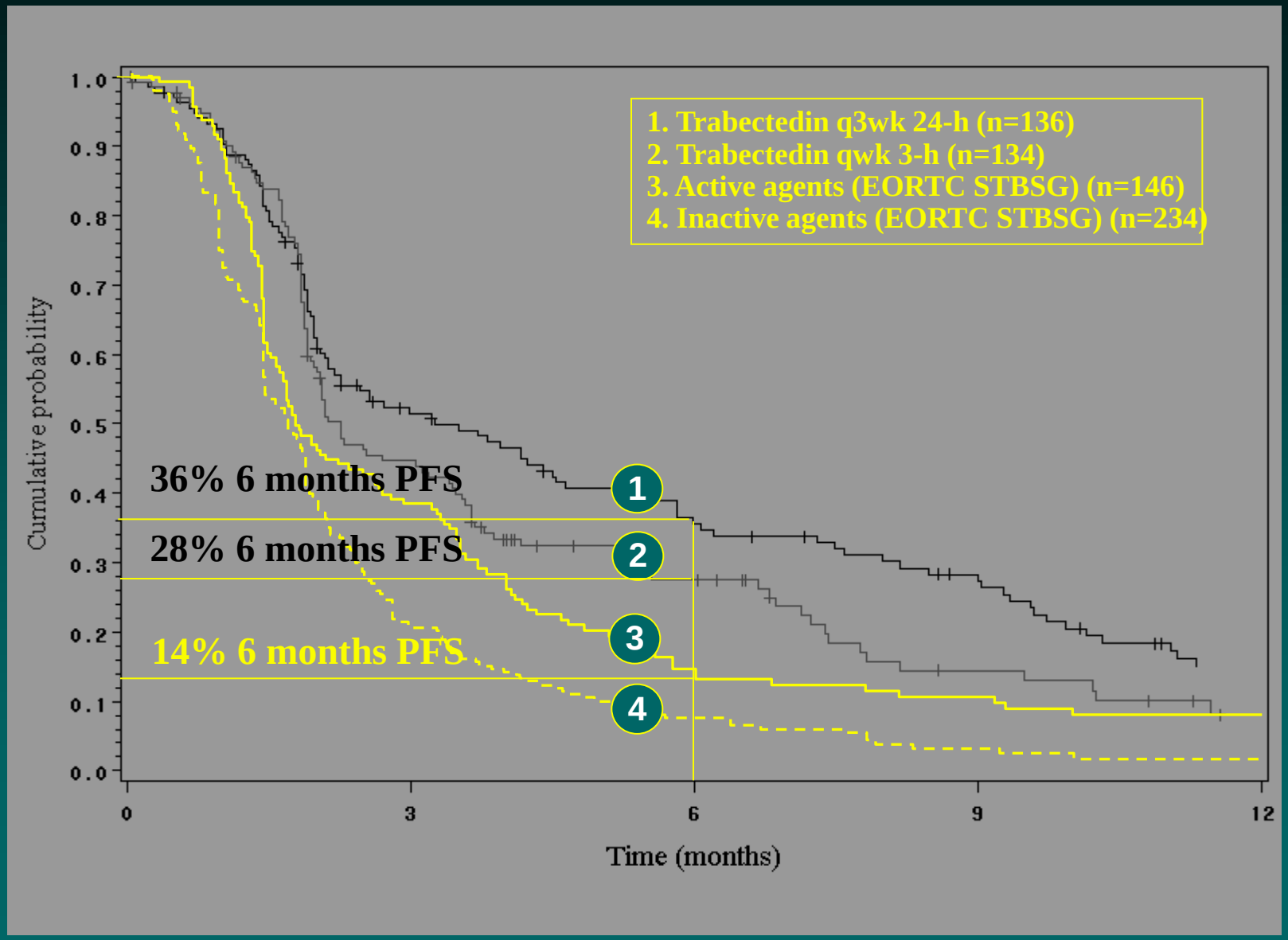
Trial STS-201 Primary Endpoint TTP: (Indep. Review)



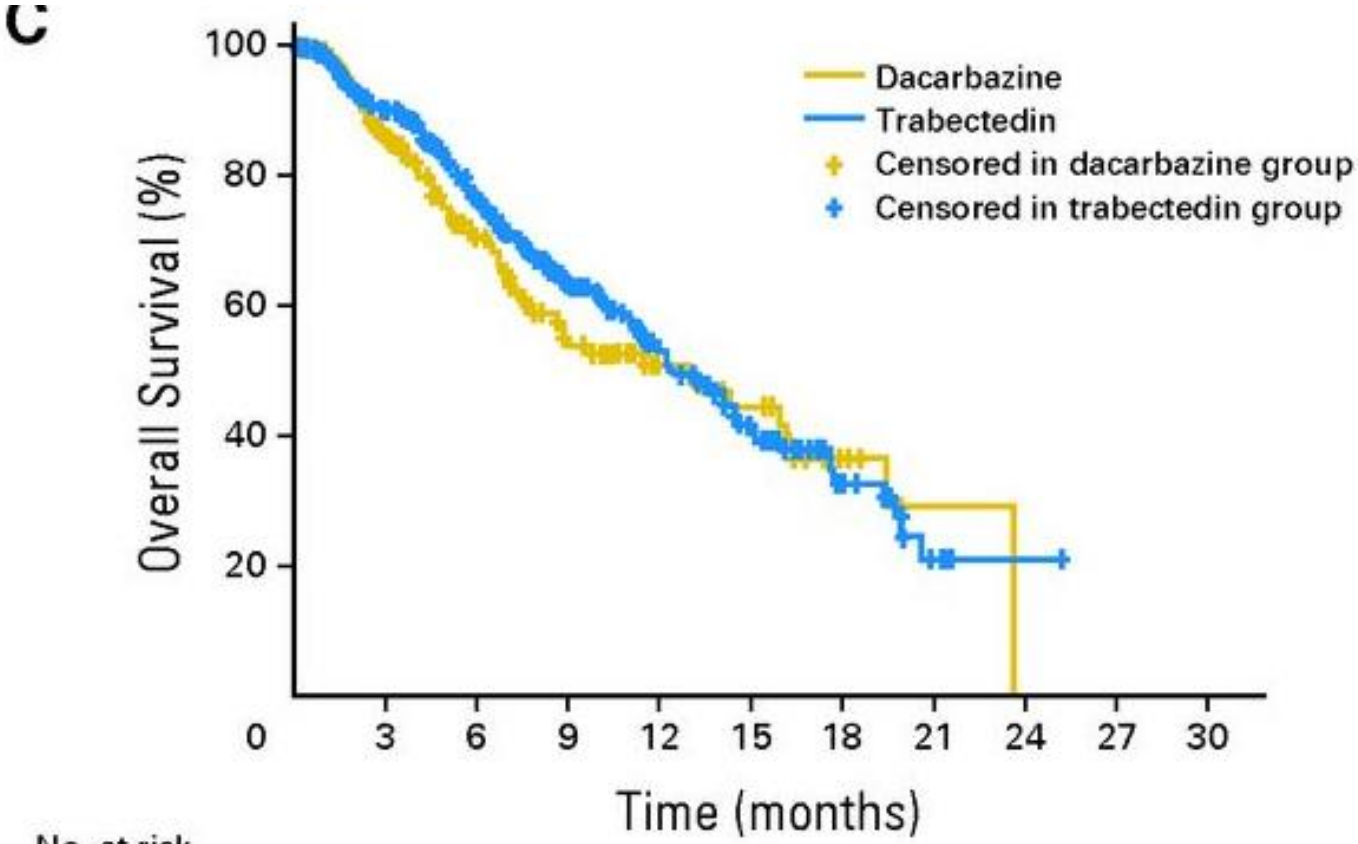
	qwk 3-h n=134	q3wk 24-h n=136	Stats n=270
206 events	102	104	
Median, mo.	2.3	3.7	p=0.0302 HR: 0.734

The study met its primary endpoint, showing a statistically significant 27% reduction in the risk of progression with trabectedin q3wk 24-h

LipoS and LeioS
PFS (STS-201 and EORTC)



Kaplan-Meier estimates of overall survival at the interim analysis.



No. at risk										
Dacarbazine	173	113	69	43	25	19	7	1	0	
Trabectedin	345	251	166	107	63	35	16	5	1	0

George D. Demetri et al. JCO
doi:10.1200/JCO.2015.62.4734

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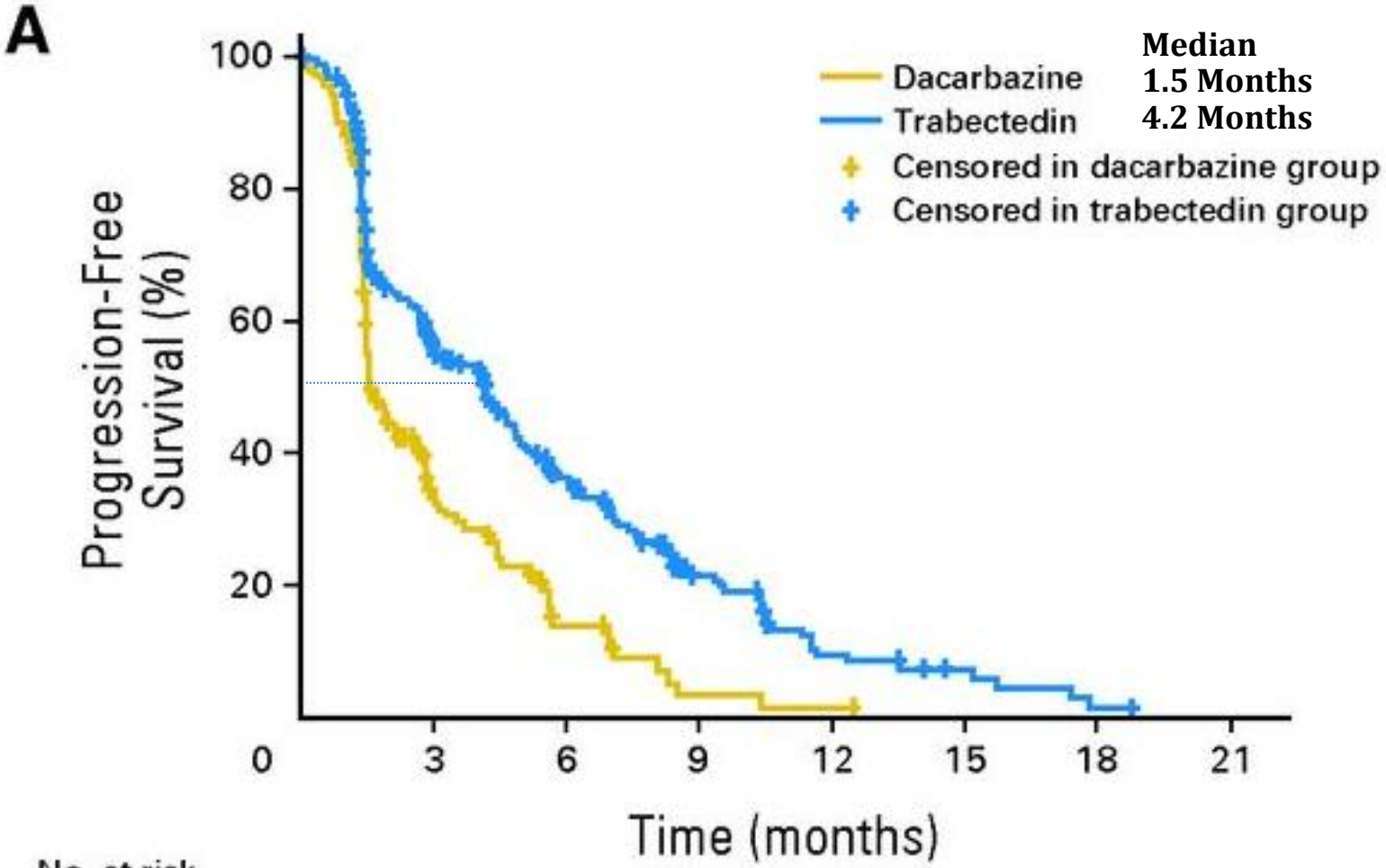
Kaplan-Meier Estimates of Progression-free Survival



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George D. Demetri et al. JCO
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JOURNAL OF CLINICAL ONCOLOGY ASCO

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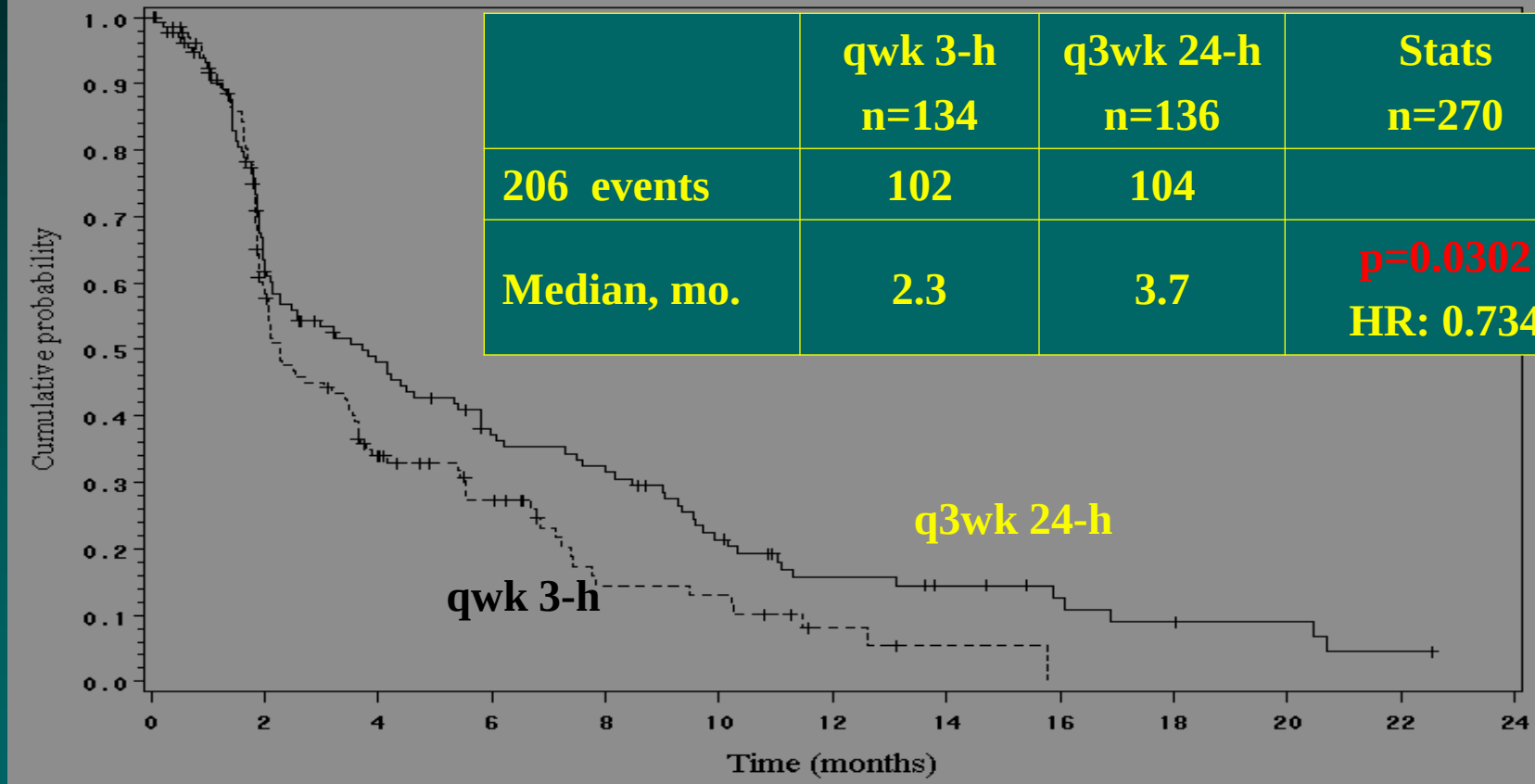
Trial STS-201 Primary Endpoint TTP: (Indep. Review)



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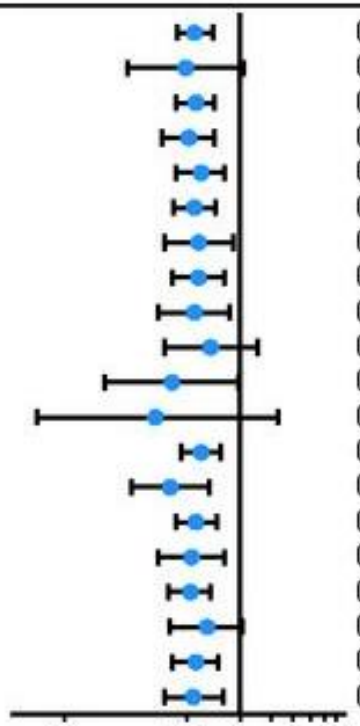
206 events	102	104	
Median, mo.	2.3	3.7	p=0.0302 HR: 0.734

Forest Plot of Subgroup Analyses

B

Variable	Subgroup	Median (months) Dacarbazine	Median (months) Trabectedin	HR	95% CI	Events/n Dacarbazine	Events/n Trabectedin
All	All	1.5	4.2	0.55	0.44 to 0.70	112/173	217/345
Lines of prior chemotherapy	1	2.7	4.9	0.49	0.23 to 1.04	11/23	24/38
	≥ 2	1.5	4.2	0.56	0.43 to 0.71	101/150	193/307
ECOG PS	0	1.5	4.7	0.51	0.36 to 0.71	52/86	104/171
	1	1.5	2.9	0.60	0.43 to 0.82	60/87	113/174
Histologic subtype	Leiomyosarcoma	1.6	4.3	0.55	0.42 to 0.73	85/126	154/252
	Nonuterine	1.6	4.9	0.58	0.37 to 0.92	28/48	70/118
	Uterine	1.5	4.0	0.58	0.41 to 0.81	57/78	84/134
	Liposarcoma	1.5	3.0	0.55	0.34 to 0.87	27/47	63/93
	Dedifferentiated	1.9	2.2	0.68	0.37 to 1.25	16/25	35/45
	Myxoid ± round cell	1.5	5.6	0.41	0.17 to 0.98	8/19	21/38
	Pleomorphic	1.4	1.5	0.33	0.07 to 1.64	3/3	7/10
Age, years	< 65	1.8	4.1	0.60	0.46 to 0.78	87/139	173/264
	≥ 65	1.5	4.9	0.40	0.24 to 0.67	25/34	44/81
Sex	Female	1.6	4.2	0.56	0.43 to 0.74	81/126	141/238
	Male	1.5	4.1	0.53	0.34 to 0.82	31/47	76/107
Race	White	1.5	4.2	0.52	0.39 to 0.68	82/125	173/269
	Nonwhite	1.8	3.5	0.65	0.40 to 1.03	30/48	44/76
BMI, kg/m²	< 30	1.5	4.0	0.56	0.41 to 0.75	72/112	128/203
	≥ 30	2	4.4	0.54	0.37 to 0.80	40/61	89/142



Favoring trabectedin ← → Favoring dacarbazine

Hazard Ratio (trabectedin *v* dacarbazine) and 95% CI (log scale)

George D. Demetri et al. JCO
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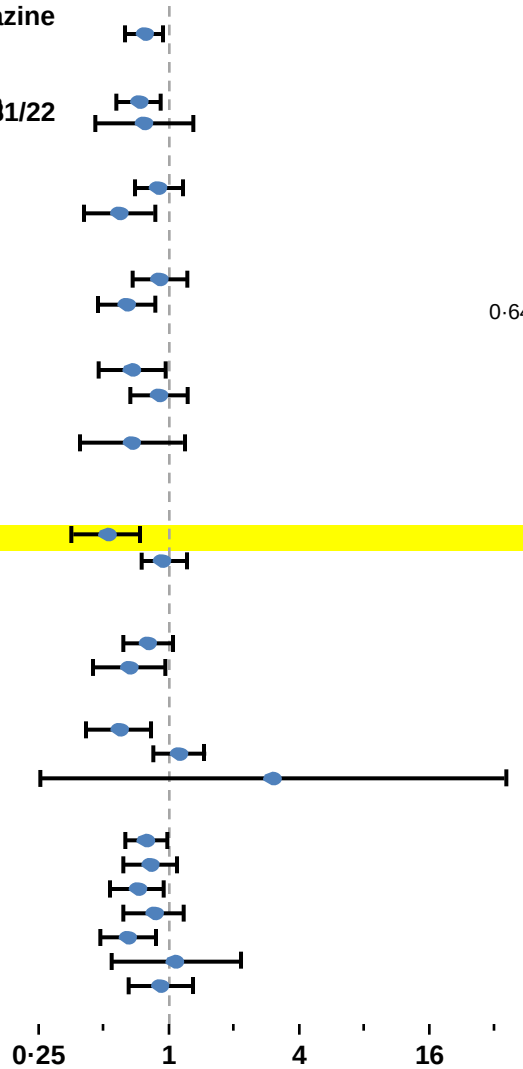
Figure 3

Eribulin

Group/Subgroup	Events/n Eribulin	Events/n Dacarbazine	HR (95% CI)	Median (95% CI), months Eribulin	Median (95% CI), months Dacarbazine
Overall	176/228	181/22	0·768 (0·618, 0·954)	13·5 (10·9, 15·6)	11·5 (9·6, 13·0)
Age group, years					
<65	138/178	148/178	0·728 (0·569, 0·931)	13·5 (10·9, 17·6)	11·3 (9·3, 12·3)
≥65	38/50	33/46	0·766 (0·445, 1·319)	13·5 (7·8, 17·9)	13·2 (7·3, 18·9)
Sex					
Female	124/161	110/142	0·896 (0·682, 1·175)	13·2 (10·1, 16·5)	12·3 (10·7, 15·3)
Male	52/67	71/82	0·591 (0·402, 0·868)	14·7 (9·7, 18·2)	9·6 (6·7, 11·5)
Prior regimens for advanced STS					
2	92/121	92/122	0·902 (0·671, 1·214)	13·9 (10·3, 18·3)	12·3 (10·0, 15·5)
>2	84/107	89/102	0·640 (0·466, 0·879)	13·2 (9·2, 15·3)	10·1 (7·8, 12·3)
Stratification region					
Region 1 (USA and Canada)	63/87	69/86	0·669 (0·466, 0·958)	15·3 (9·7, 21·1)	11·5 (8·4, 13·9)
Region 2 (Western Europe, Australia, and Israel)	85/106	84/105	0·890 (0·653, 1·214)	13·3 (10·5, 16·5)	11·5 (9·5, 14·8)
Region 3 (Eastern Europe, Latin America, and Asia)	28/35	28/33	0·667 (0·380, 1·171)	11·4 (8·0, 18·3)	9·7 (5·9, 13·5)
Histology					
Liposarcoma	52/71	63/72	0·511 (0·346, 0·753)	15·6 (10·2, 18·6)	8·4 (5·2, 10·1)
Leiomyosarcoma	124/157	118/152	0·927 (0·714, 1·203)	12·7 (9·8, 14·8)	13·0 (11·3, 15·1)
AJCC sarcoma tumor grade score at the date of diagnosis					
High	118/150	125/152	0·796 (0·607, 1·042)	12·7 (9·3, 14·8)	11·5 (9·5, 13·0)
Intermediate	57/77	55/69	0·649 (0·439, 0·961)	14·8 (11·3, 19·5)	10·1 (8·1, 15·3)
Baseline ECOG PS 0	76/111	72/90	0·579 (0·407, 0·823)	19·9 (14·8, 23·0)	13·1 (11·0, 16·2)
1	97/114	97/121	1·107 (0·826, 1·484)	9·4 (7·0, 12·7)	10·1 (8·6, 12·3)
2	3/3	12/13	3·000 (0·251, 35·794)	1·1 (0·7, 3·5)	3·0 (1·9, 12·3)
Prior anticancer therapy type					
Anthracycline	174/225	177/219	0·770 (0·619, 0·958)	13·5 (10·9, 15·6)	11·3 (9·5, 12·3)
Gemcitabine	101/129	111/138	0·803 (0·600, 1·074)	13·2 (8·7, 16·8)	11·8 (9·3, 13·5)
Ifosfamide	108/141	115/137	0·701 (0·529, 0·930)	14·7 (11·7, 18·3)	11·0 (9·4, 13·0)
Taxane	87/109	92/114	0·835 (0·604, 1·156)	11·3 (7·7, 14·8)	11·6 (9·0, 13·3)
Trabectedin	80/108	98/116	0·643 (0·469, 0·884)	13·3 (10·6, 17·8)	10·7 (8·1, 13·1)
Targeted therapy	23/29	19/26	1·067 (0·527, 2·161)	11·3 (3·6, 18·4)	13·1 (6·3, 20·4)
Other	66/83	70/90	0·902 (0·631, 1·289)	11·3 (7·7, 14·8)	12·2 (9·6, 15·1)

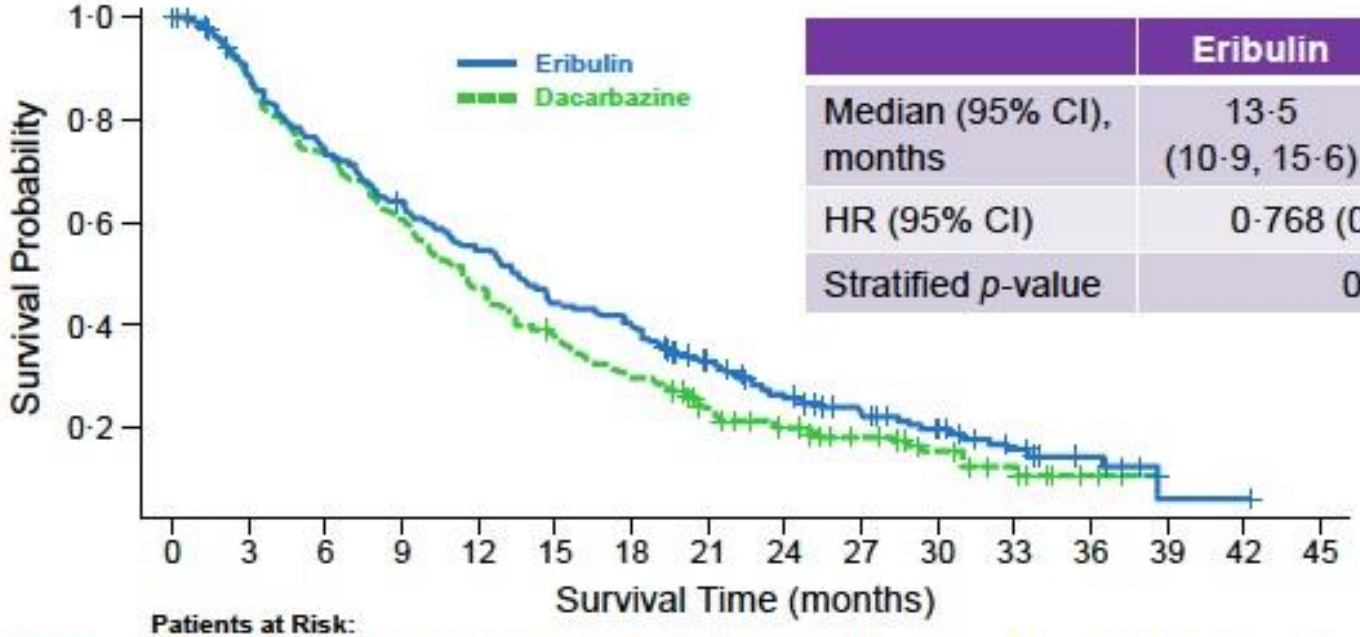


Schöfski, *Lancet* in press

Eribulin Survival

Figure 2

(a)



	Eribulin	Dacarbazine
Median (95% CI), months	13·5 (10·9, 15·6)	11·5 (9·6, 13·0)
HR (95% CI)	0·768 (0·618, 0·954)	
Stratified *p*-value	0·0169	

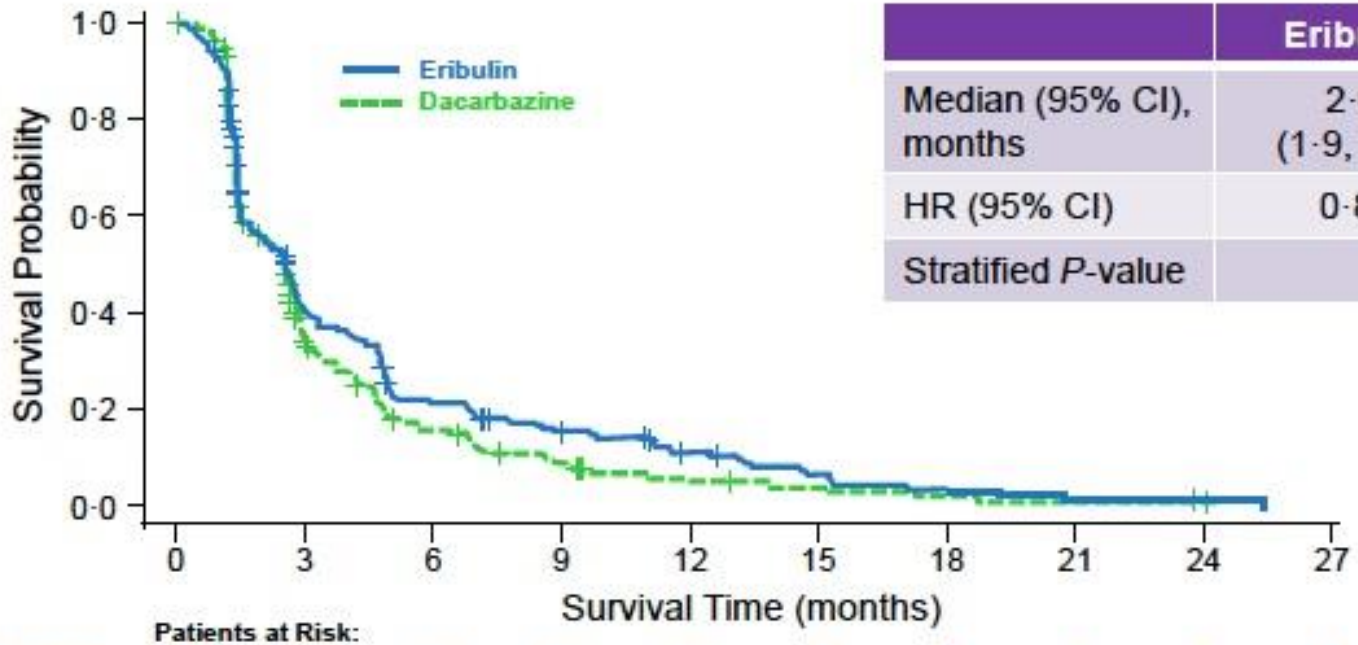
Patients at Risk:

Eribulin	228	197	162	138	120	97	88	64	45	34	25	14	7	1	1	0
Dacarbazine	224	190	158	130	103	81	64	45	32	24	16	8	3	0	0	0

Schöfski, *Lancet* in press

Eribulin Progression-Free Survival

(b)



	Eribulin	Dacarbazine
Median (95% CI), months	2·6 (1·9, 2·8)	2·6 (1·8, 2·7)
HR (95% CI)	0·877 (0·710, 1·085)	
Stratified *P*-value	0·2287	

Patients at Risk:										
Eribulin	228	79	41	27	16	9	5	2	1	0
Dacarbazine	224	63	27	14	6	4	2	1	1	0

Schöfski, *Lancet* in press

Effects of Eribullin
FDA Approval
Only for Liposarcoma

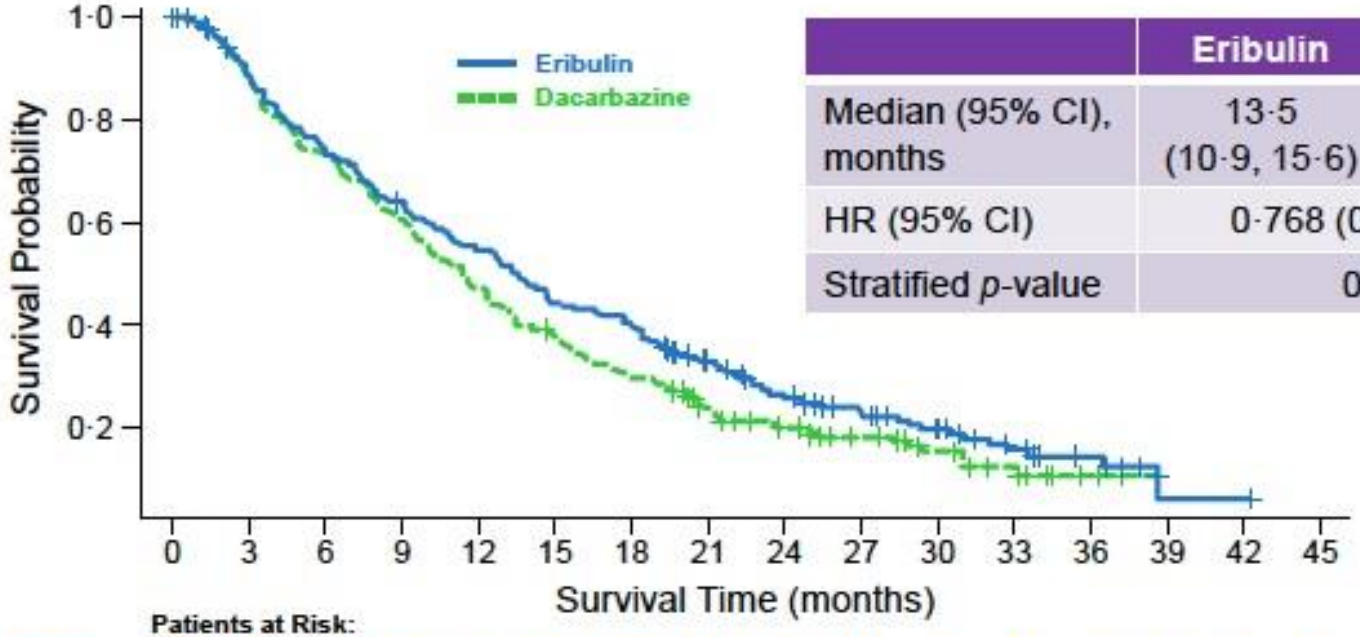
	Eribulin 225	Dacarbazine 221	Hazard Ratio (95% CI)
Leiomyosarcoma			
No. of Patients	**153**	**150**	
PFS (mos)	**2.2**	**2.6**	**1.05 (0.81,1.35)**
Overall Survival (mos)	**12.8**	**12.3**	**0.90 (0.69,1.18)**
Liposarcoma			
No. of Patients	**72**	**71**	
PFS (mos)	**2.9**	**1.7**	**0.52 (0.35,0.78)**
Overall Survival (mos)	**15.6**	**8.4**	**0.51 (0.35,0.75)**

Treatment effects of eribulin were limited to the stratified subgroup of patients with liposarcoma, observed in pre-planned, exploratory subgroup analyses of OS and PFS.

Eribulin Survival

Figure 2

(a)



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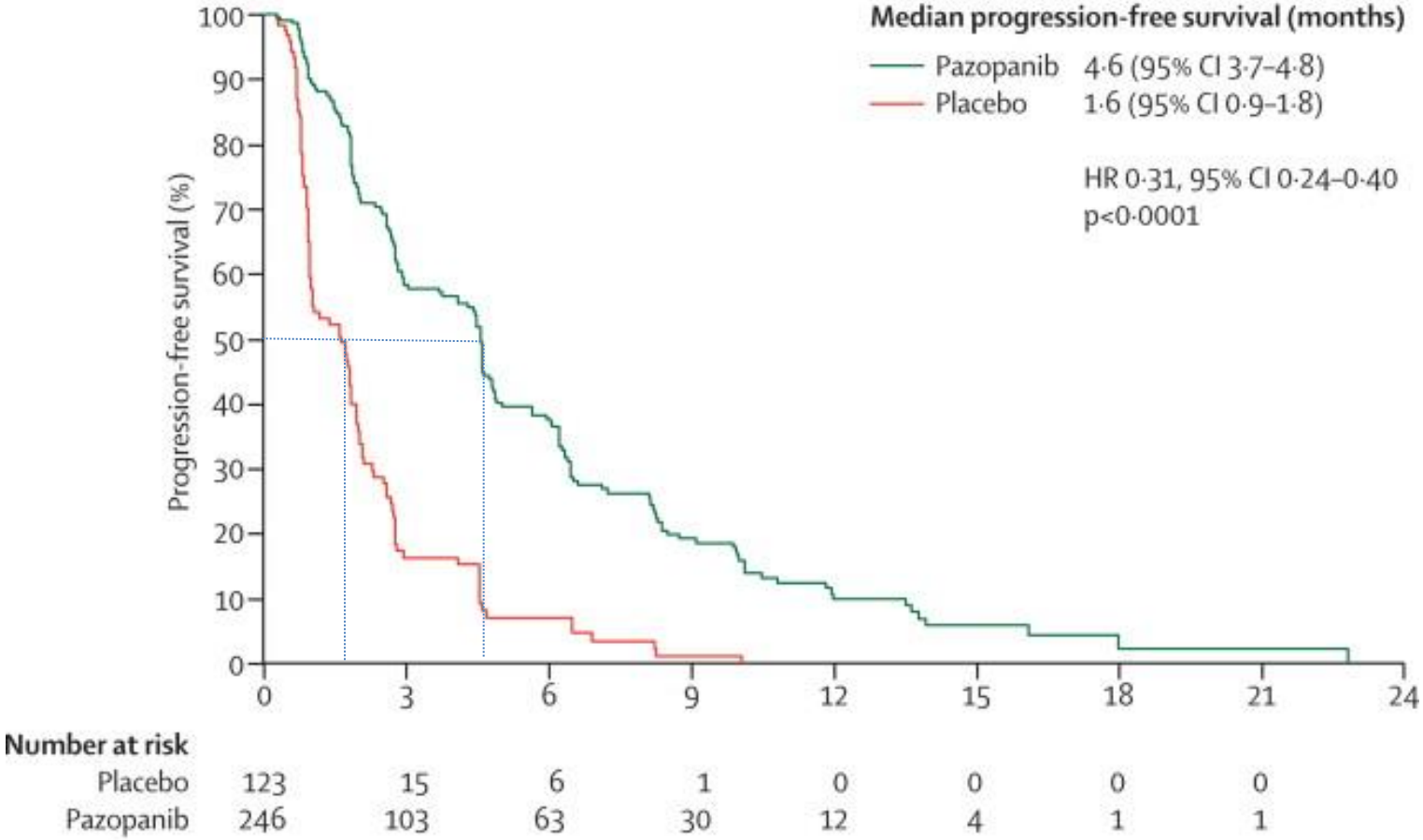
Schöfski, *Lancet* in press

Palette Trial

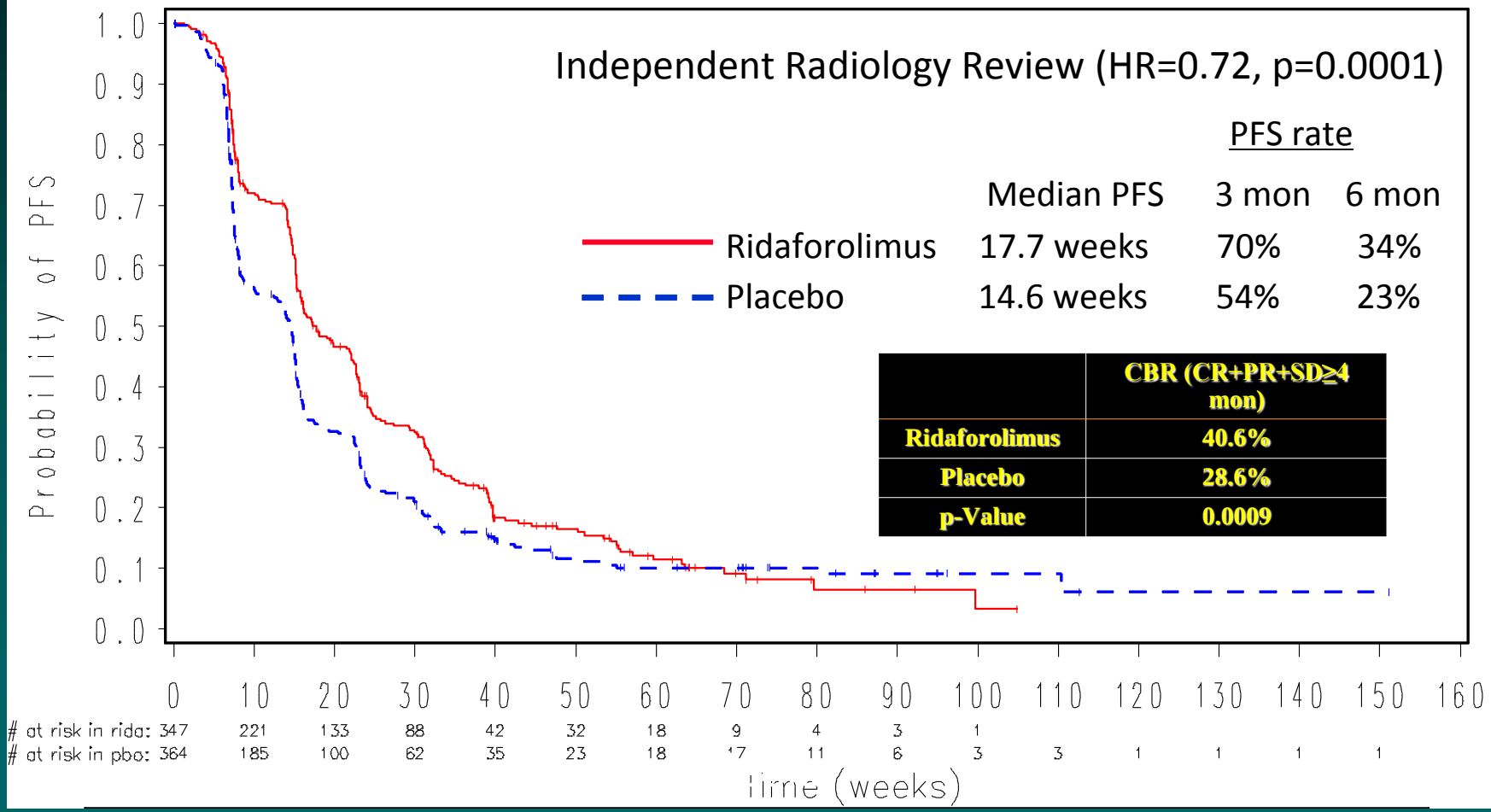


Pazopanib for metastatic soft-tissue sarcoma (PALETTE): a randomised, double-blind, placebo-controlled phase 3 trial

Lancet, Volume 379, Issue 9829, 2012, 1879–1886

® phase III trial (SUCCEED) ridaforolimus vs placebo as maintenance therapy

N = 711 non PD patients after CT, any CT lines (1 to 3)

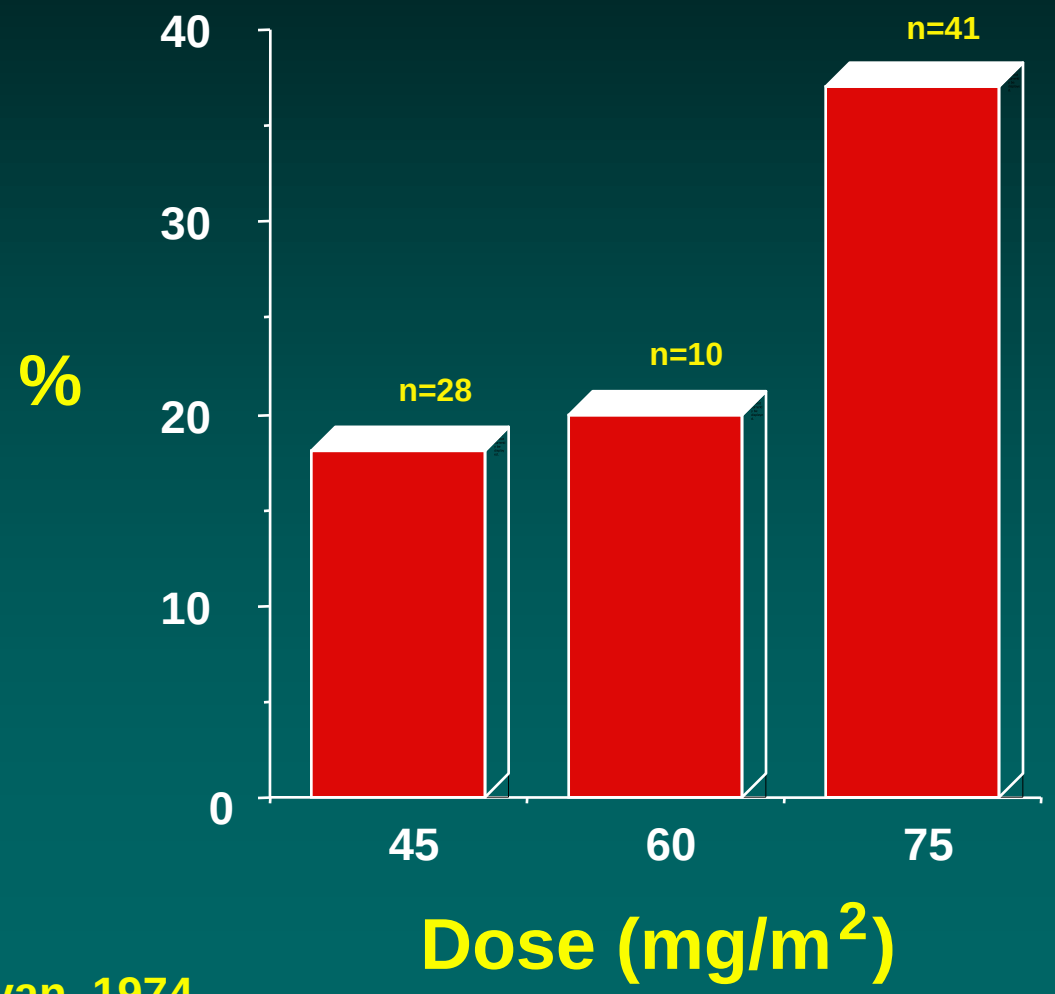


Demetri et al; JCO 2013

Benefits in terms of PFS of Various Sarcoma Regimens

Treatment Regimen	PFS in Months	PFS Benefit in Months	Comparators
AI	7.4	2.8	A
GT (Maki)	6.2	3.2	G
GT (Pautier Uterine)	4.7	-0.8	G
GT (Pautier Other Leio)	3.4	-2.9	G
Trabectedin 2007	3.7	1.4	Weekly Trabectedin
Trabectedin 2015	4.2	2.7	Dacarbazine
Eribulin (Lipo)	2.9	1.2	Dacarbazine
Pazopanib	4.6	3.0	Placebo
Ridaforolimus	4.1	0.7	Placebo after response

Adriamycin Dose-Response in Sarcomas

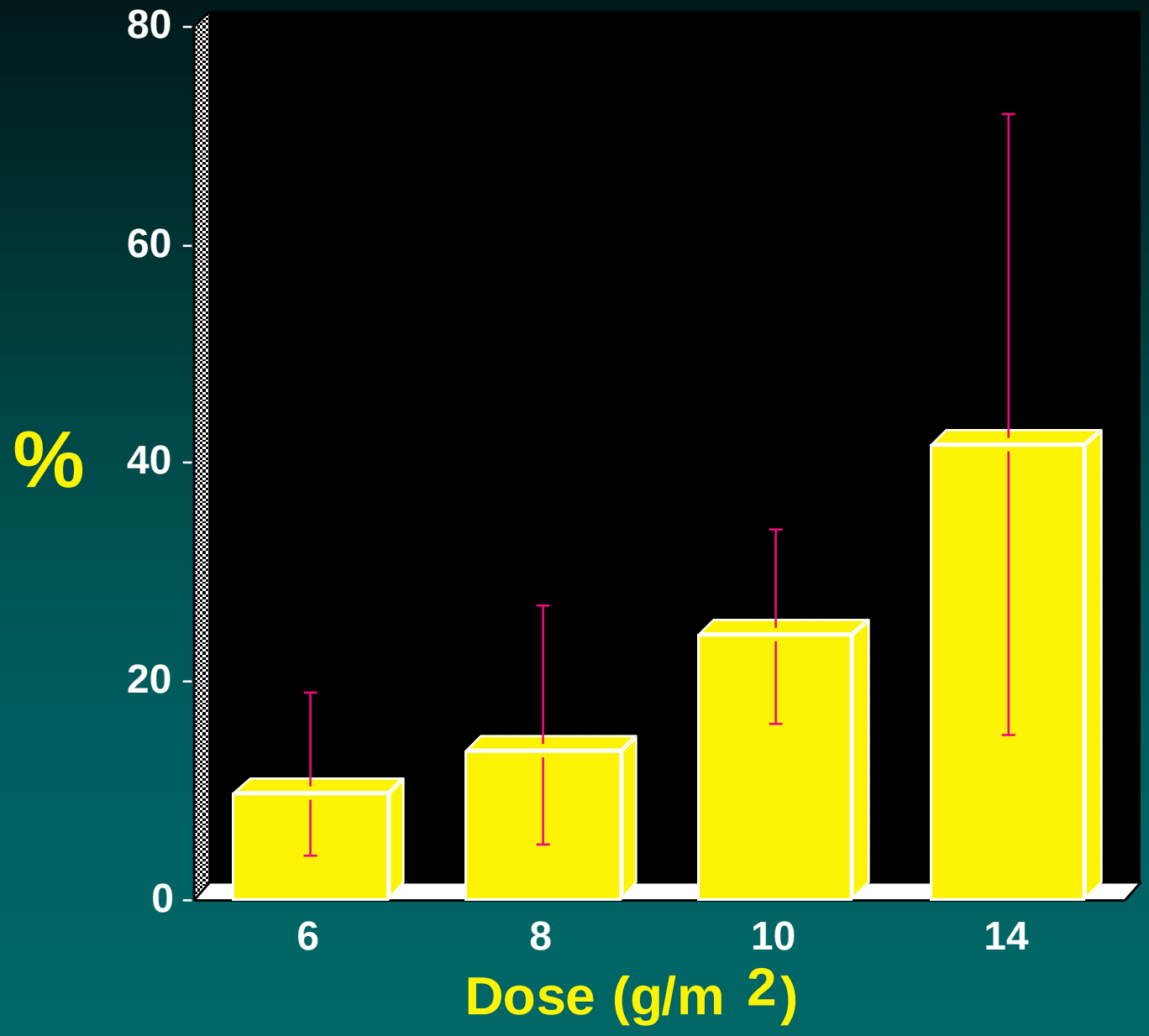


45 *vs* 75 p=0.05

All Doses p=0.07

O'Bryan, 1974

Ifosfamide Dose-Response



Dose-intensive AI in STS
Response

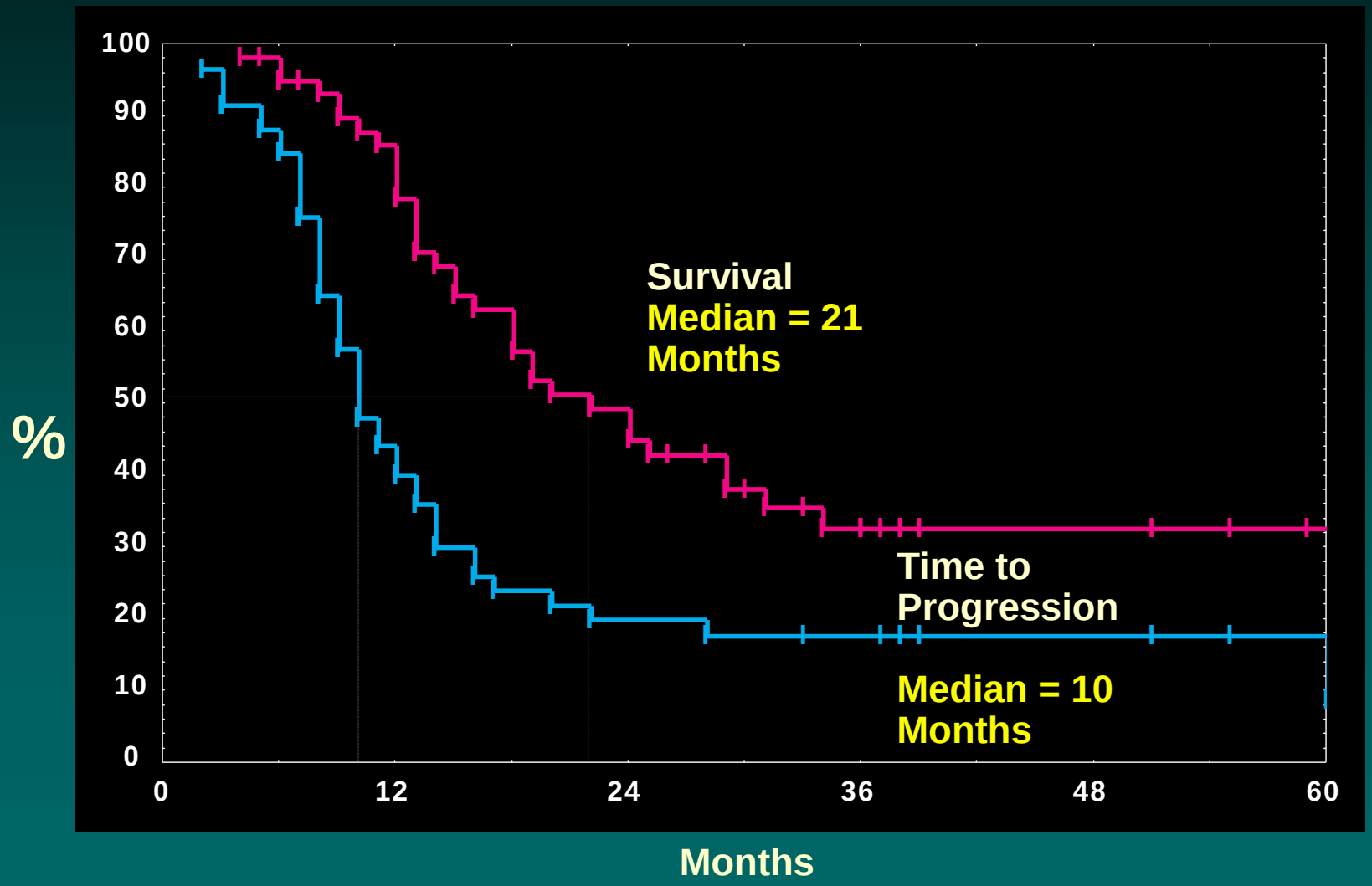
76/122 Responses (62%, 95% CI, 53-71%)

- 13 Complete Responses (11%)
- 57 Partial Responses (47%)
- 6 Major Responses (5%)
- 12 Minor Responses (10%)
- 20 Stable Disease (16%)
- 14 Progressive Disease (11%)

Patel 5/00

AI Chemotherapy for Metastatic STS

Time to Progression and Survival



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Doxorubicin alone versus intensified doxorubicin plus ifosfamide for first-line treatment of advanced or metastatic soft-tissue sarcoma: a randomised controlled phase 3 trial

*Ian Judson, Jaap Verweij, Hans Gelderblom, Jörg T Hartmann, Patrick Schöffski, Jean-Yves Blay, J Martijn Kerst, Josef Sufliarsky, Jeremy Whelan, Peter Hohenberger, Anders Krarup-Hansen, Thierry Alcindor, Sandrine Marreaud, Saskia Litière, Catherine Hermans, Cyril Fisher, Pancras C W Hogendoorn, A Paolo dei Tos, Winette T A van der Graaf, for the European Organisation and Treatment of Cancer Soft Tissue and Bone Sarcoma Group**

Lancet Oncol 2014; 15: 415–23

Comment

One step forward, two steps back

**Robert S Benjamin, J Jack Lee*

The design

Stratification:

- Age (<50 vs ≥50)
- PS (0 vs 1)
- Liver metastases (0 vs +)
- Histological grade (2 vs 3)

R

Doxorubicin 75 mg/m² d 1 or as a 72 hour continous i.v. infusion

Doxorubicin 25 mg/m² d 1-3 + Ifosfamide 2.5 g/m² d 1-4 + Neulasta 6mg s.c. d5

The Primary Endpoint

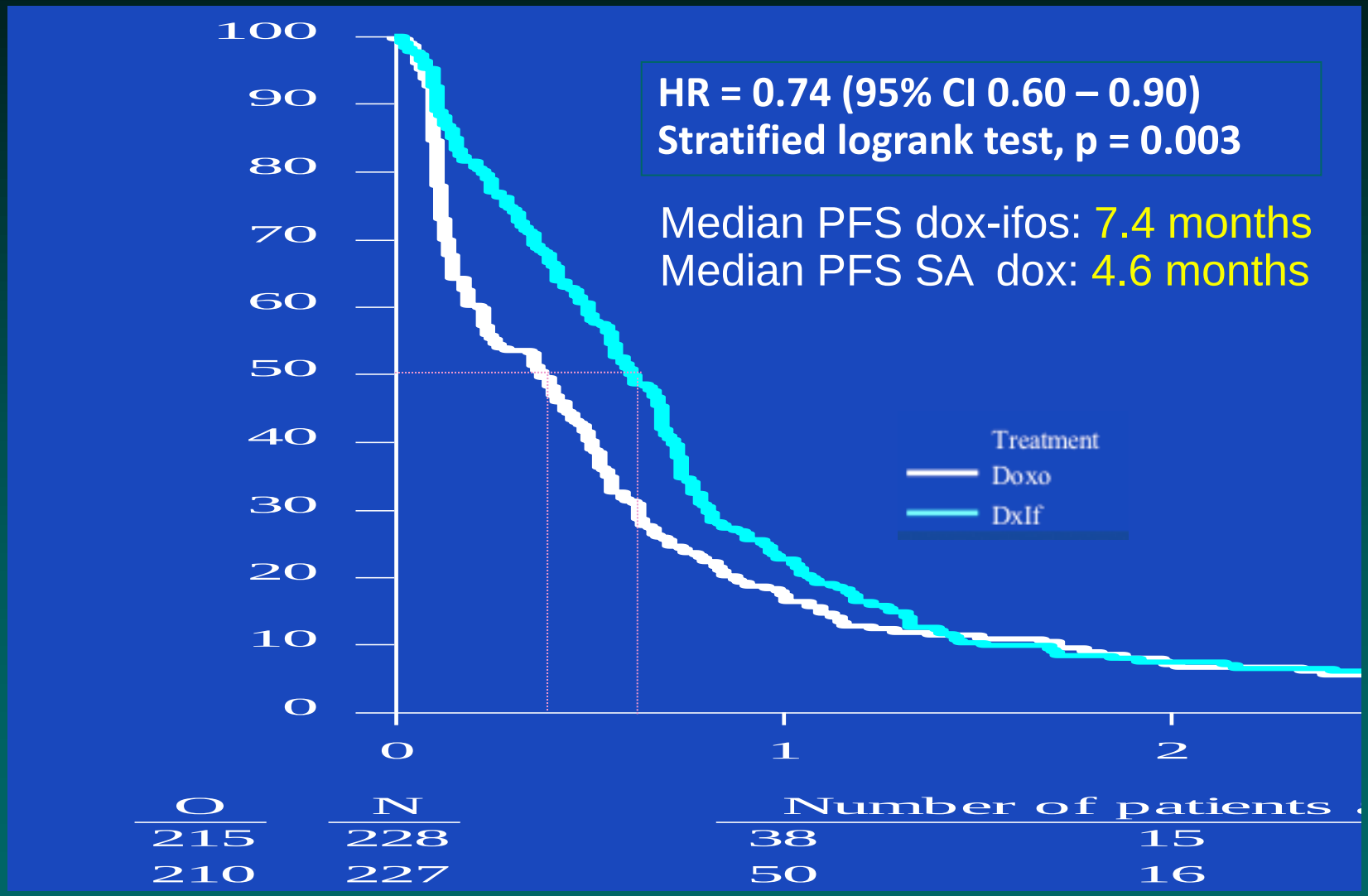
- Overall Survival
  - Assumed that doxorubicin would result in a 1-year survival of 50%, based on analysis of >2000 patients
  - Assumed that a meaninful improvement would be a 1-year survival of 60% (or an increase of 10% over the single agent survival rate)
- Frequentist Statistical Design
  - Power 80%
  - Alpha 0.05

Best overall response

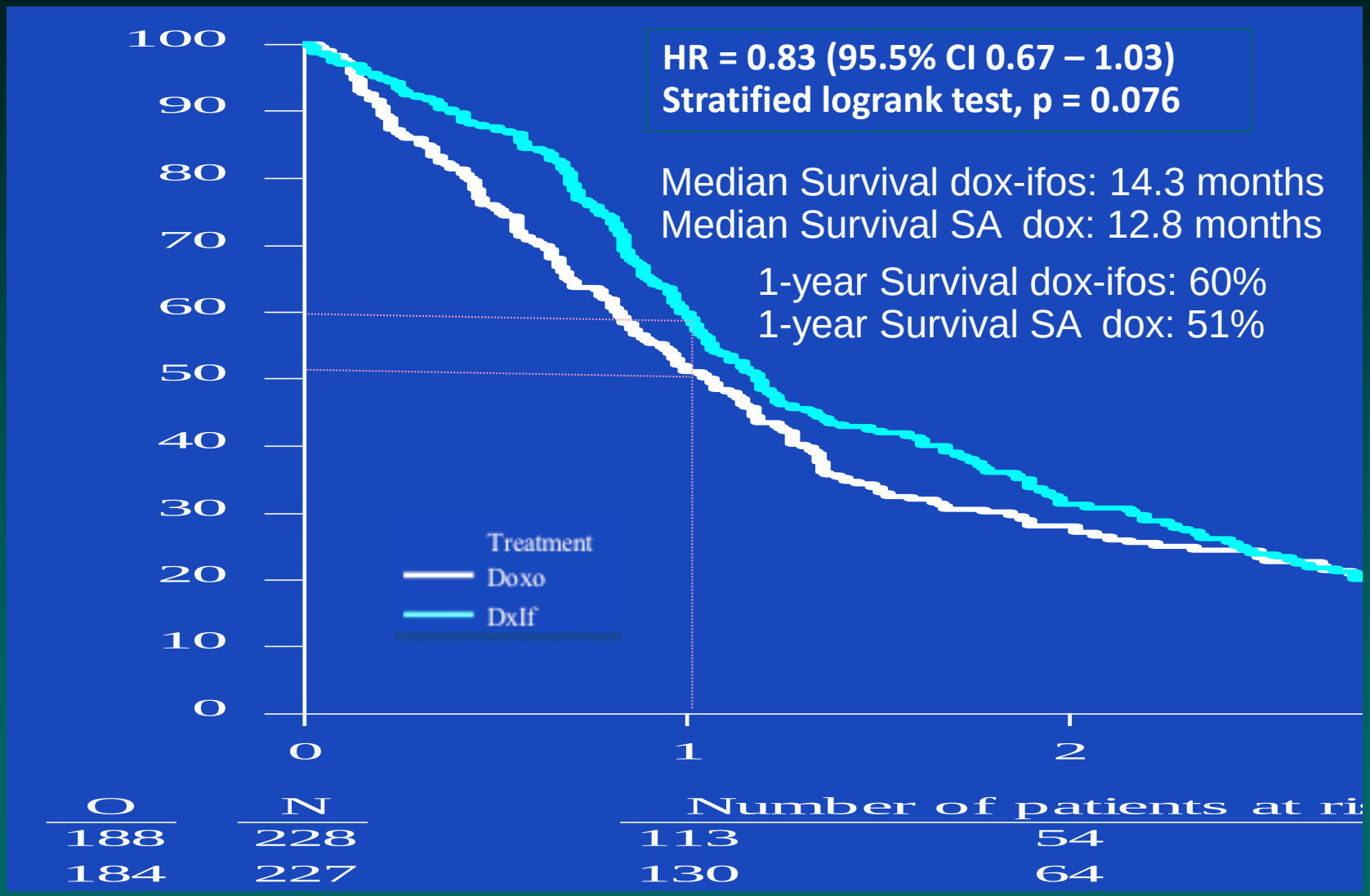
	Treatment		Total (n=455)
	Doxo (n=228)	Doxo-Ifos (n=227)	
	n (%)	n (%)	n (%)
Complete Response	1 (0.4)	4 (1.8)	5 (1.1)
Partial Response	30 (13.2)	56 (24.7)	86 (18.9)
ORR	**13.6**	**26.5**	
No Change	105 (46.1)	114 (50.2)	219 (48.1)
Progressive Disease	**74 (32.5)**	**30 (13.2)**	104 (22.9)
Early Death - Progression	4 (1.8)	5 (2.2)	9 (2.0)
Early Death – Other cause	3 (1.3)	2 (0.9)	5 (1.1)
Not evaluable	11 (4.8)	16 (7.0)	27 (5.9)

Significant difference between the two arms: $p < 0.001$

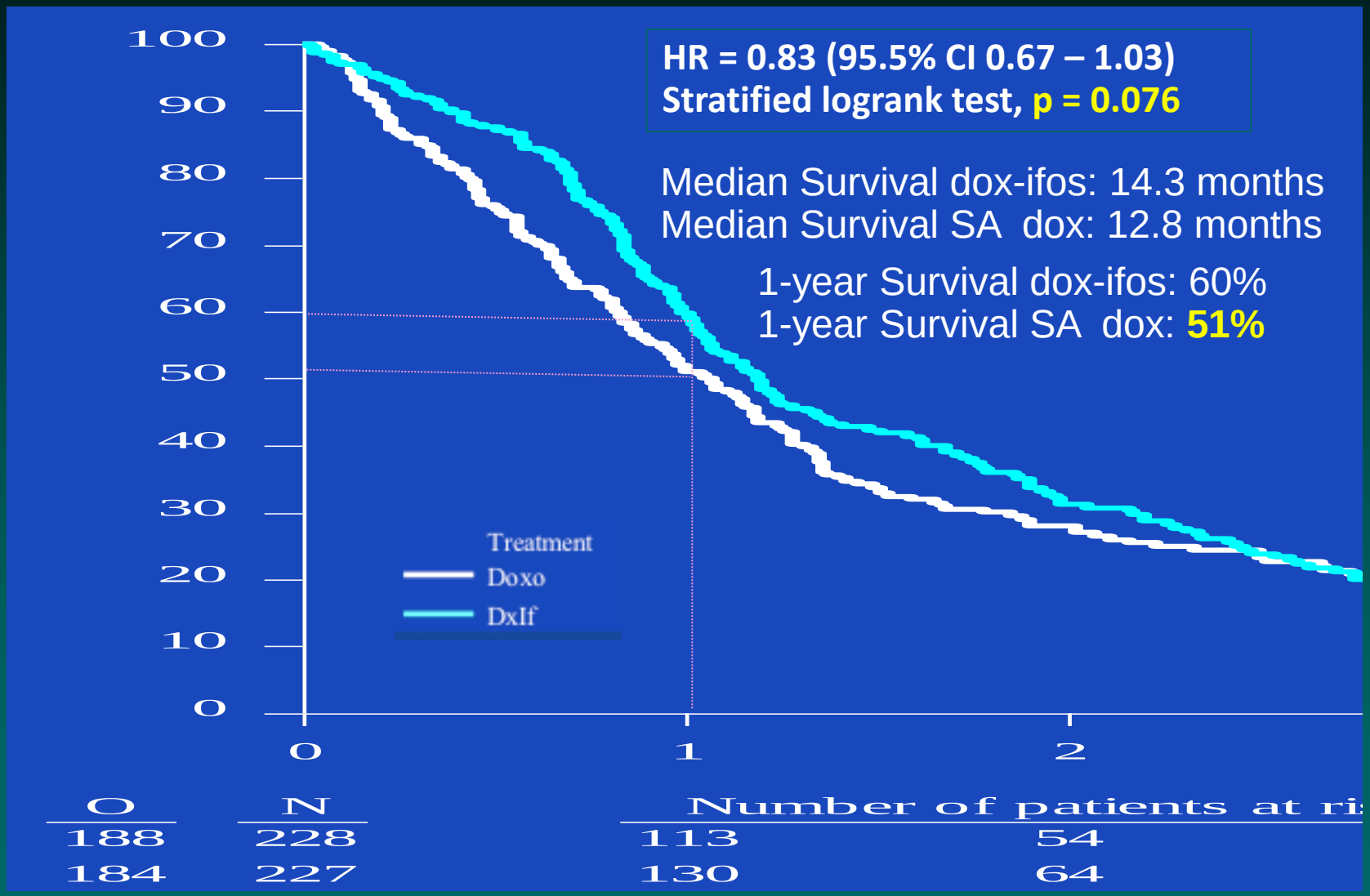
Progression free survival



Overall survival



Overall survival



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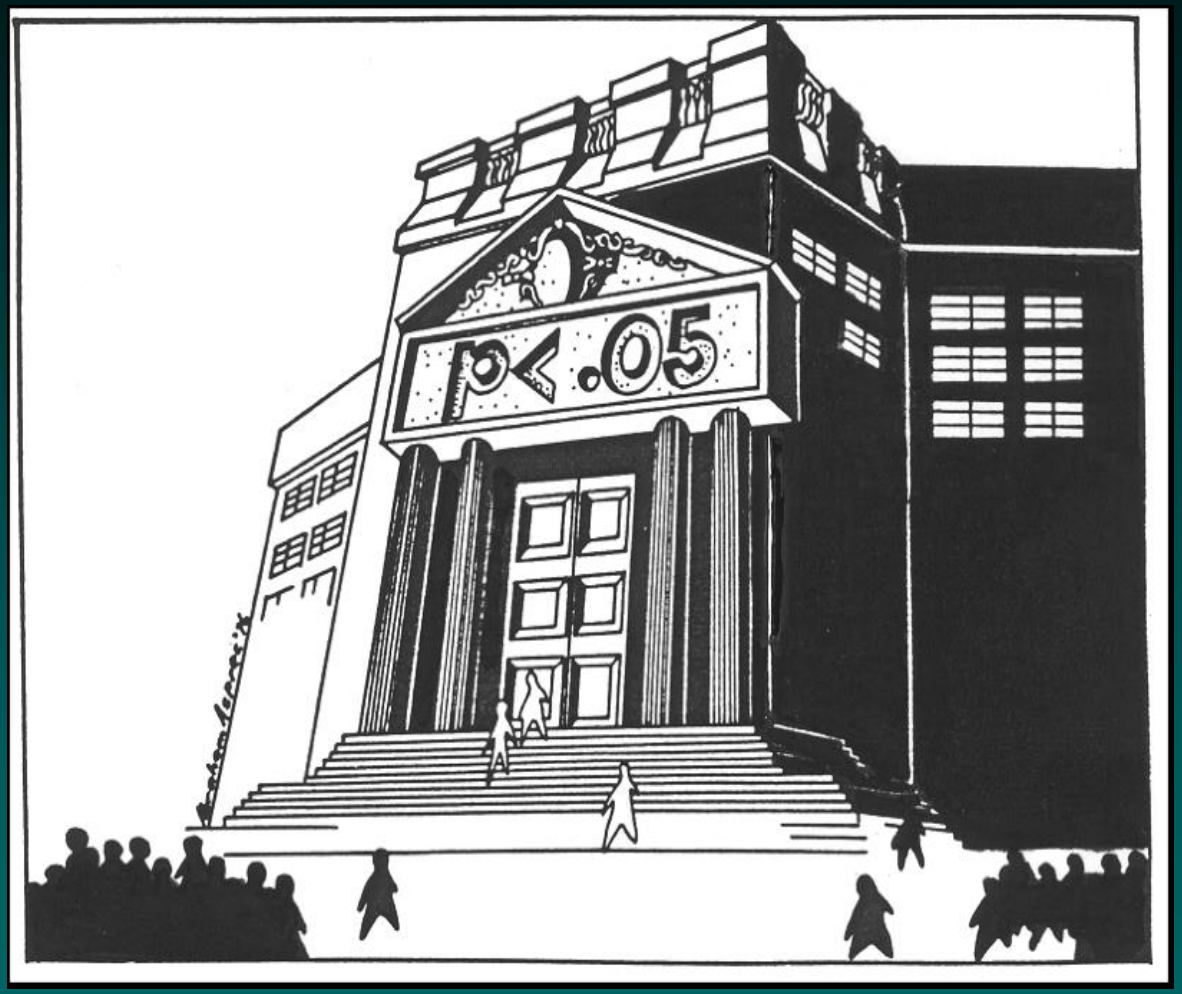

Conclusions

- The combination of doxorubicin and ifosfamide doubled the response rate
- improved PFS significantly
- it did not significantly improve survival

- The standard treatment remains single agent doxorubicin

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"I have always been impressed by the fantastically high regard that clinical scientists and statisticians hold for the 5% level of significance. . . . It seems clear to me that a drug which has a 90% probability of being better would be my personal treatment choice."

Emil J Freireich

What's the Best Therapy?

Adriamycin-Ifosfamide

What's the Best Therapy?

Adriamycin-Ifosfamide and Gemcitabine-Docetaxel

What's the Best Therapy?

Adriamycin-Ifosfamide

and

Gemcitabine-Docetaxel

and

Trabectedin

and

Pazopanib

and

Surgery

How long?

- How long to treat?
  - 3-4 courses past complete remission
  - or until it's clear that they can't take any more
  - Why on earth would you stop after 6 cycles?
  - Always protect against carciac toxicity by continuous infusion or dexrazoxane
  - If you need to stop AI with disease still present, try something else.

Is there a Role for Single Agents?

Poor bone marrow reserve

- Combination would compromise dose

Patient is too old

- Definition?

Is there a Role for Single Agents?

Poor bone marrow reserve

- Combination would compromise dose

Patient is too old

- Definition?
- 5 years older than I am

What are the exceptions to AI?

Avoid Ifosfamide

- Age over 65
- 1 kidney or renal insuffiency
- Conventional leiomyosarcoma

ADIC is as active and less toxic than AI in:

- Non-uterine Leiomyosarcoma
- Myxoid Liposarcoma

Avoid Gemcitabine-Docetaxel

- Synovial Sarcoma
- Myxoid Liposarcoma

What are other exceptions?

Histology-Specific Cytotoxic Therapy

Solitary Fibrous Tumor (HPC)

- Temozolomide-bevacizumab

Cutaneous Angiosarcomas

- Taxanes
- Standard cytotoxic chemotherapy

Epithelioid Sarcoma

- Gemcitabine-docetaxel
- VEGF inhibitors

Alveolar Soft Part Sarcoma

- VEGF inhibitors

Histology-Specific Targeted Therapy

Leiomyosarcomas

- Uterine
  - AI → Gem-Tax
  - AI → Gem-Tax → Trabectedin?
  - ADIC
  - Adria-Trabectedin?

- Other Sites
  - ADIC similar to AI, but less toxic
  - But use AI for pleomorphic tumors

Histology-Specific Targeted Therapy

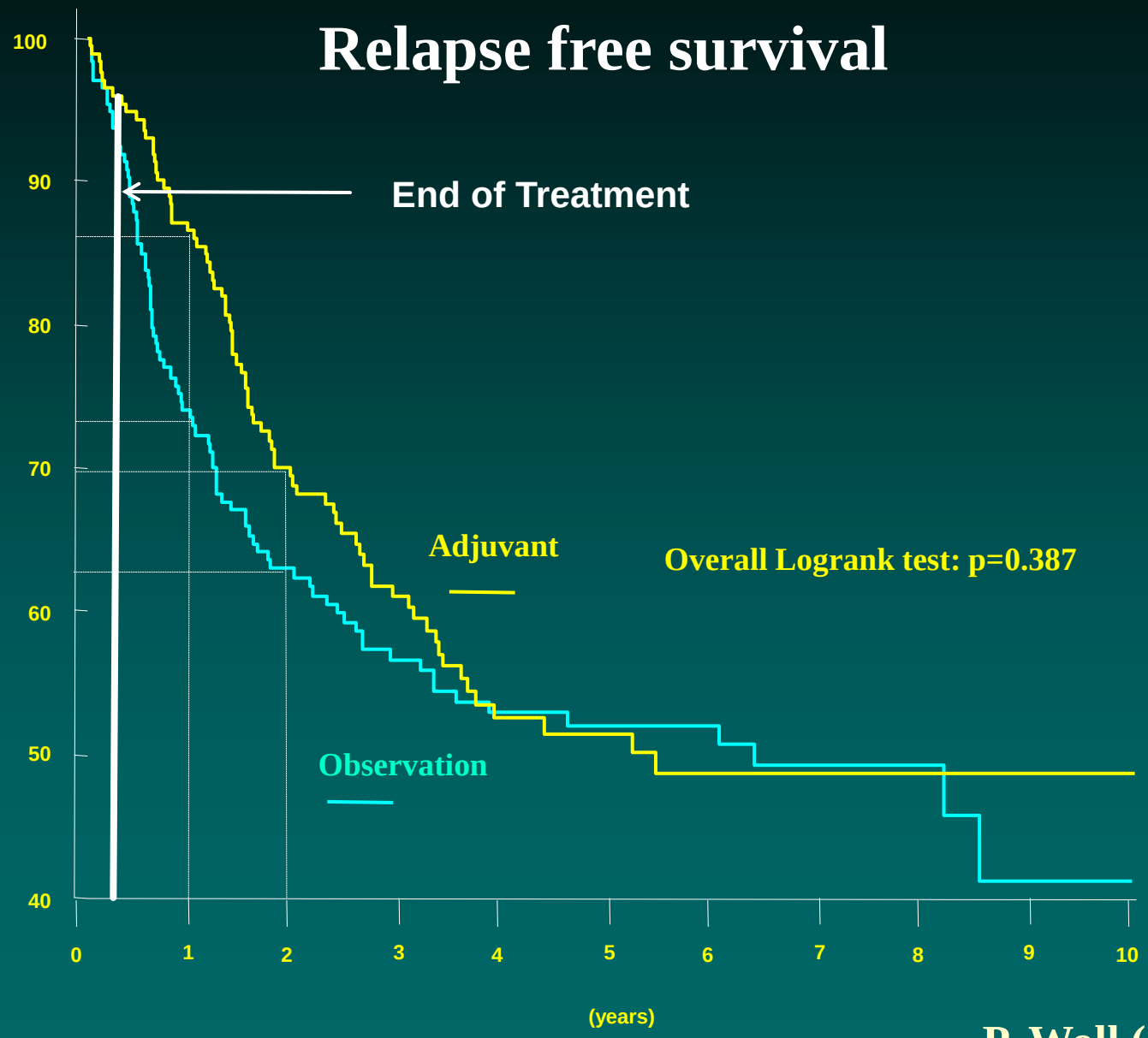
Myxoid Liposarcoma

- Trabectedin
- Adriamycin-based chemotherapy
    - ADIC similar to AI

Well-diff.-Dediff. Liposarcomas

- 2 kidneys
    - AI - Gem-Tax – trabectedin - eribulin
- 1 kidney
    - ADIC - Gem-Tax – trabectedin

STS – Adjuvant CT
EORTC 62931



P. Woll (ASCO 07)

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SARC

The Medical Treatment of STS

Robert S. Benjamin, M.D.

Department of Sarcoma Medical Oncology

The SARCOMA Center

Connective Tissue Oncology Society