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Locally-advanced NSCLC: Is concurrent CT-RT superior in all large volume tumours?

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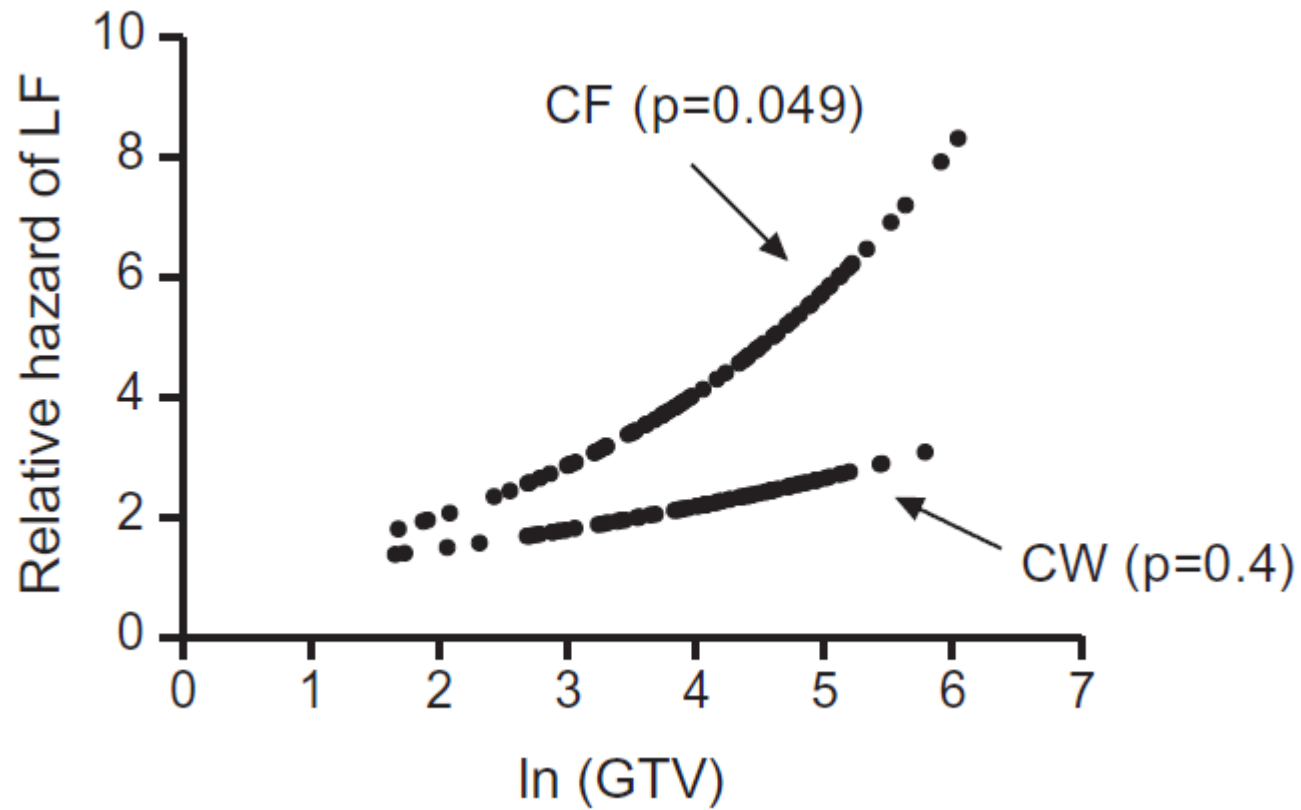
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Long-term survival is achievable!

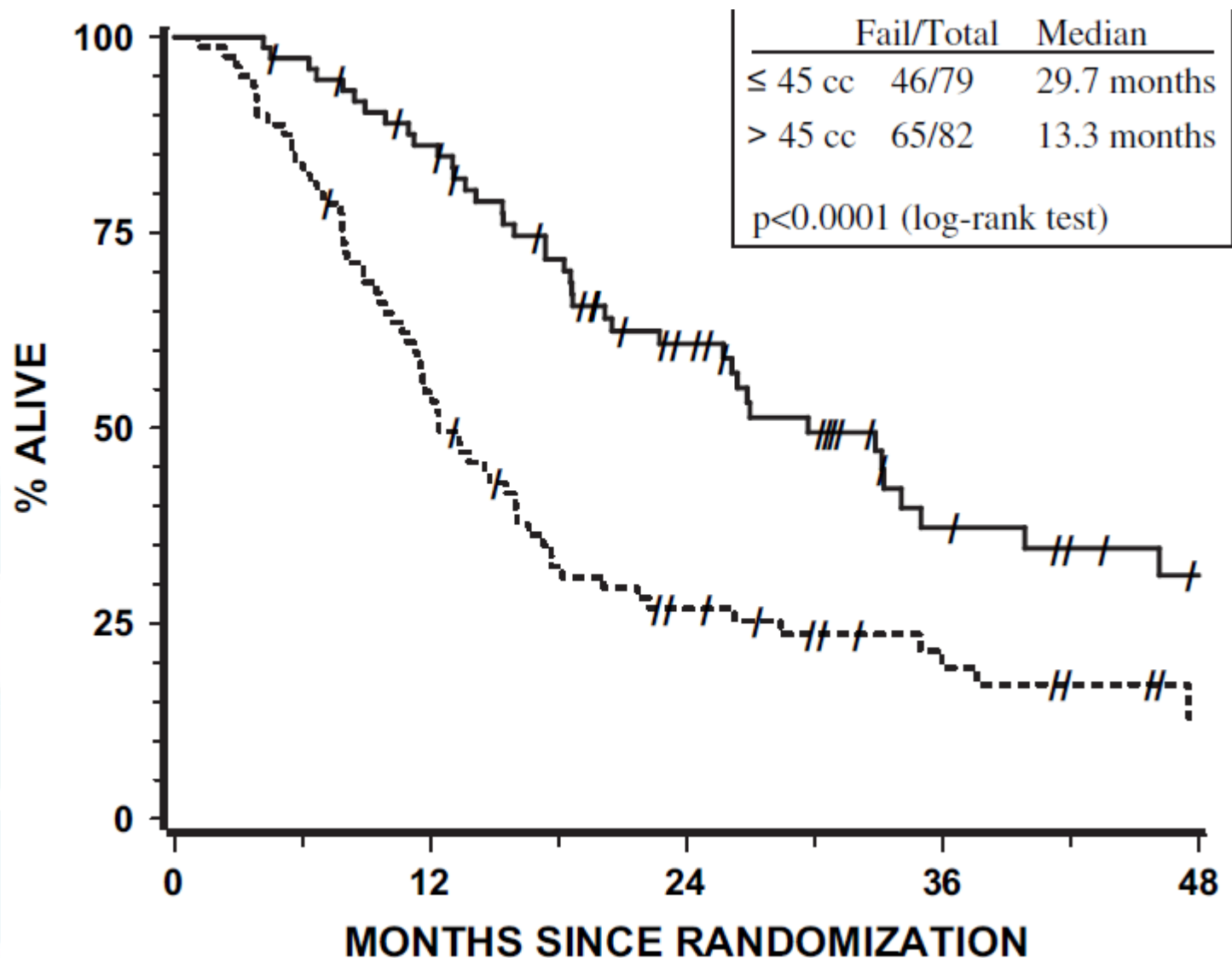
Complex effect of radiotherapy kinetics



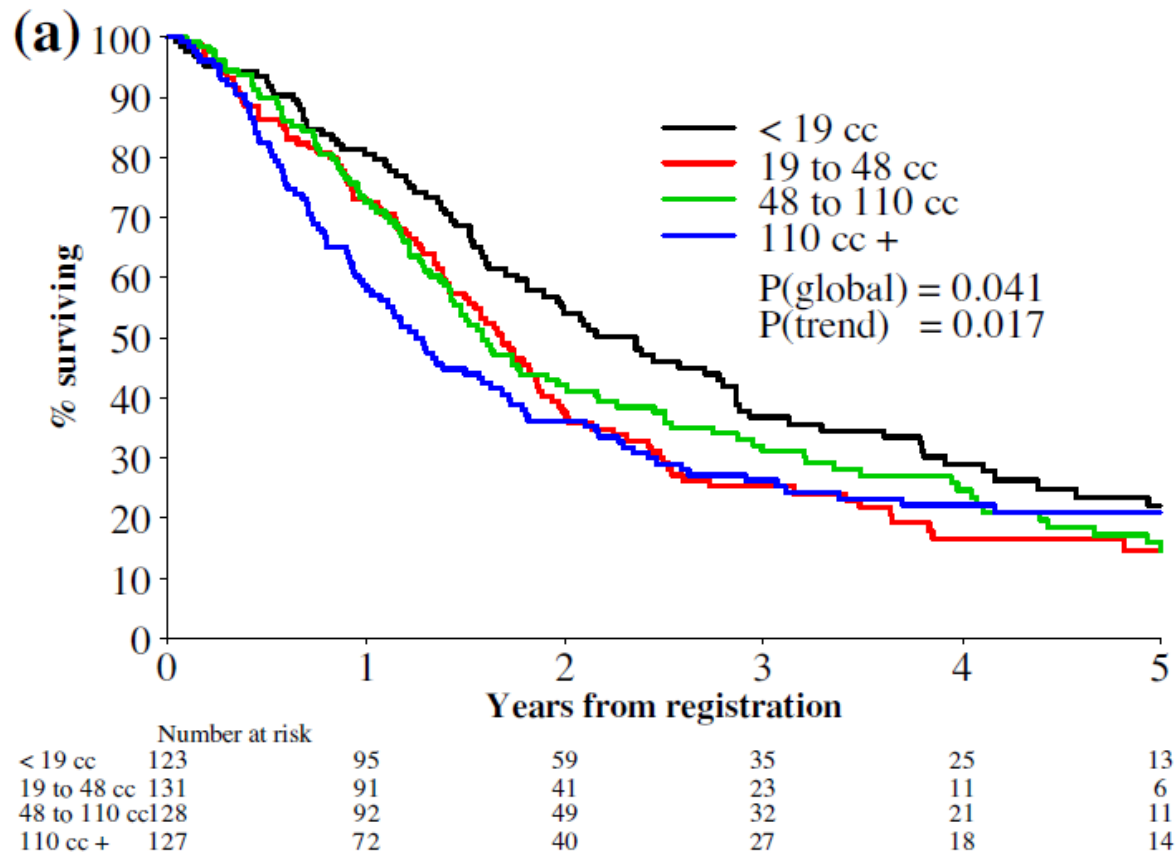
Tumour volume and survival

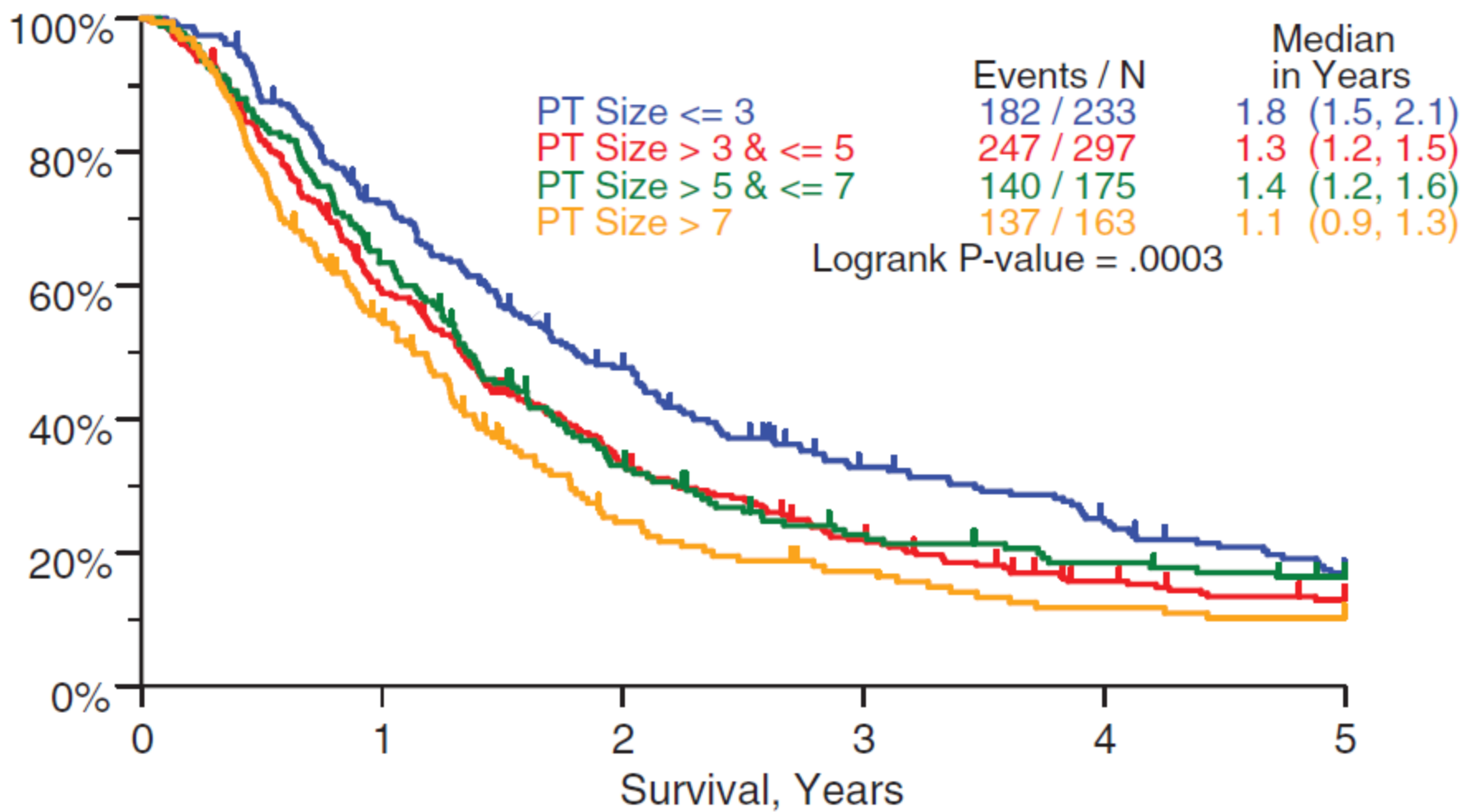


- Subgroup analysis RTOG 93-11
- RT alone or sequential chemo-RT



Tumour volume and survival (50 Gy/ 20 fractions)

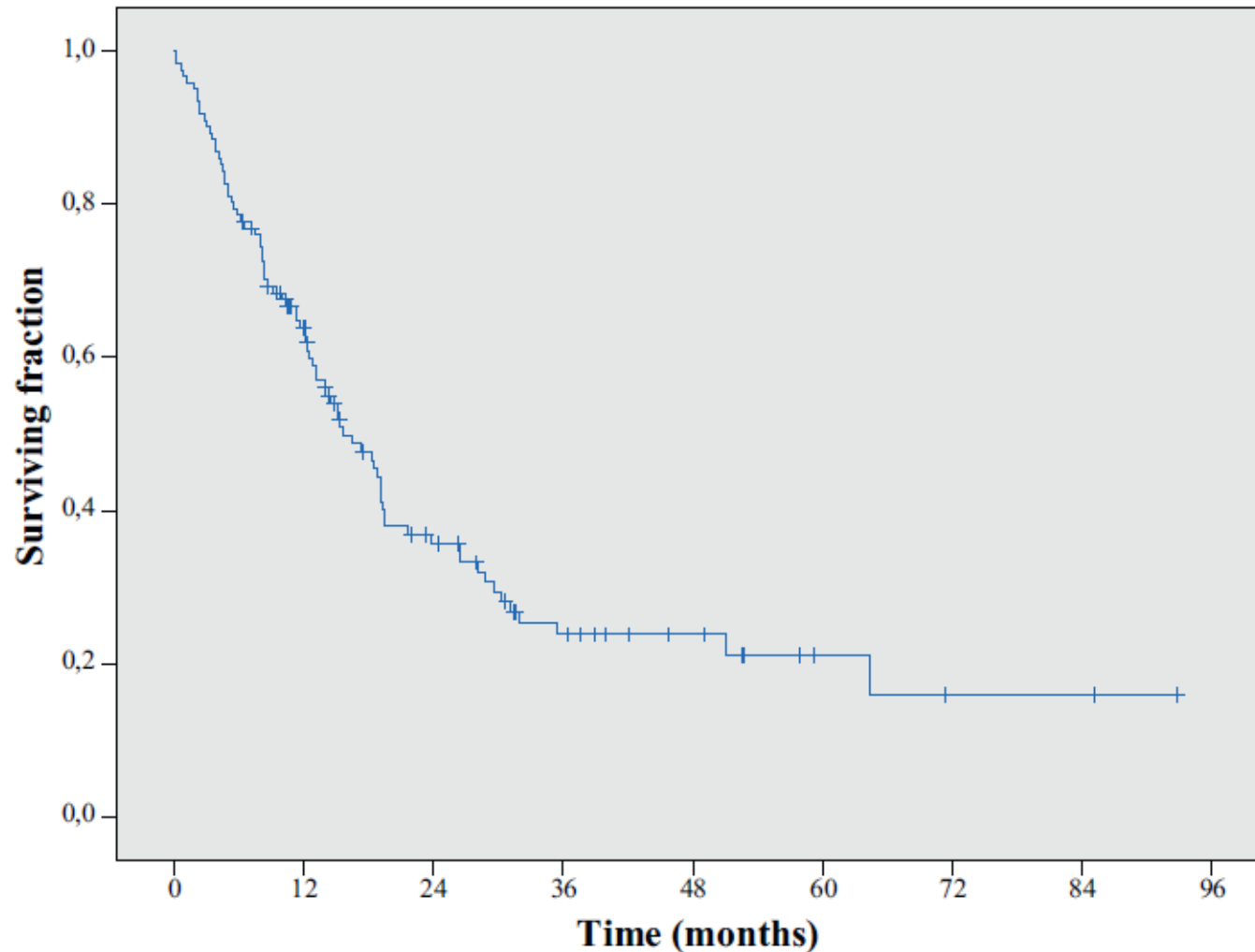




N=121; 98 (81 %) PTV > 700 ml (median 863 ml)

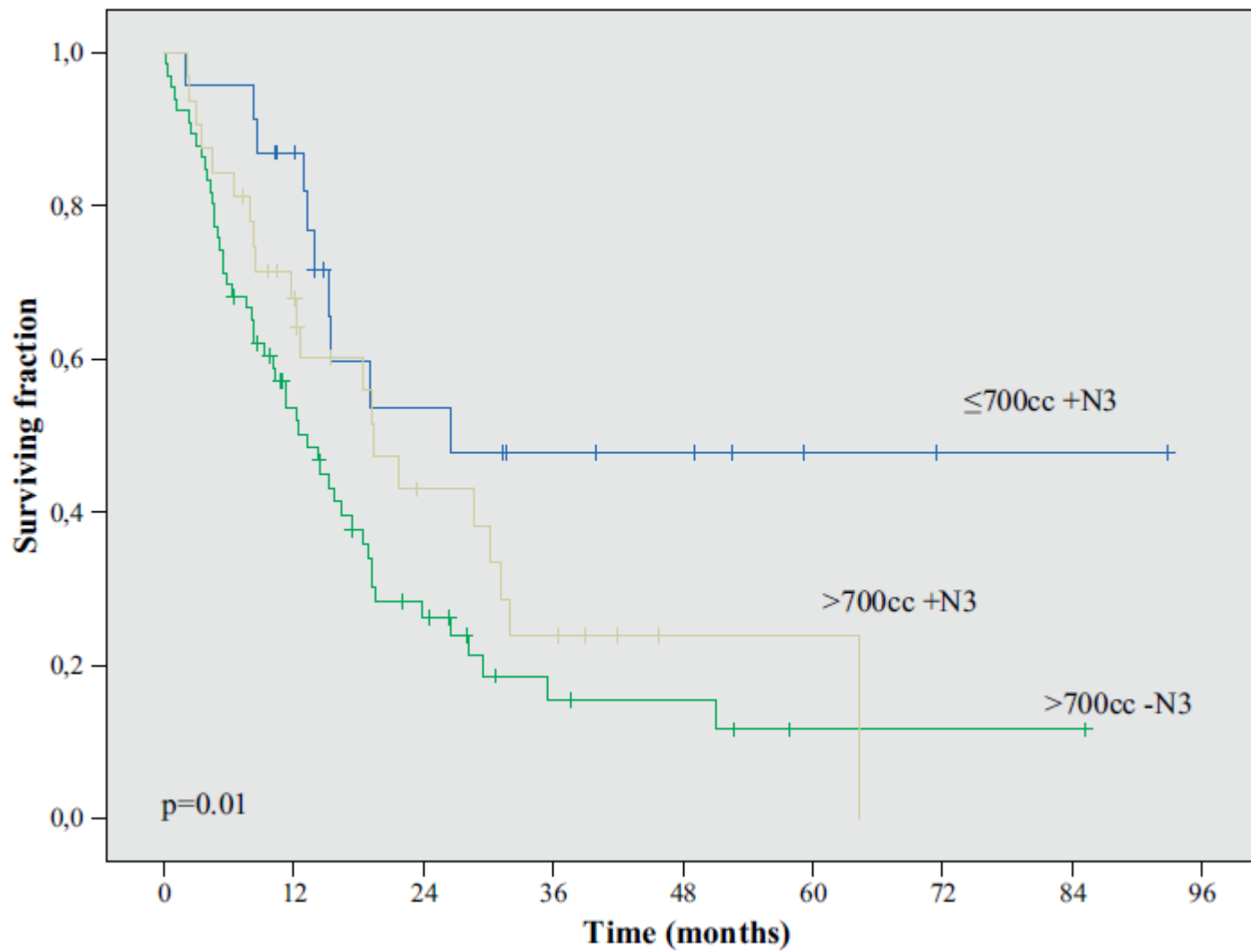
[PTV=863 ml \approx 11,8 cm diameter; 1.5 cm margin \rightarrow \approx 10 cm GTV diameter

Concurrent chemo-RT (Mean dose 58 Gy/ 2 Gy fractions)



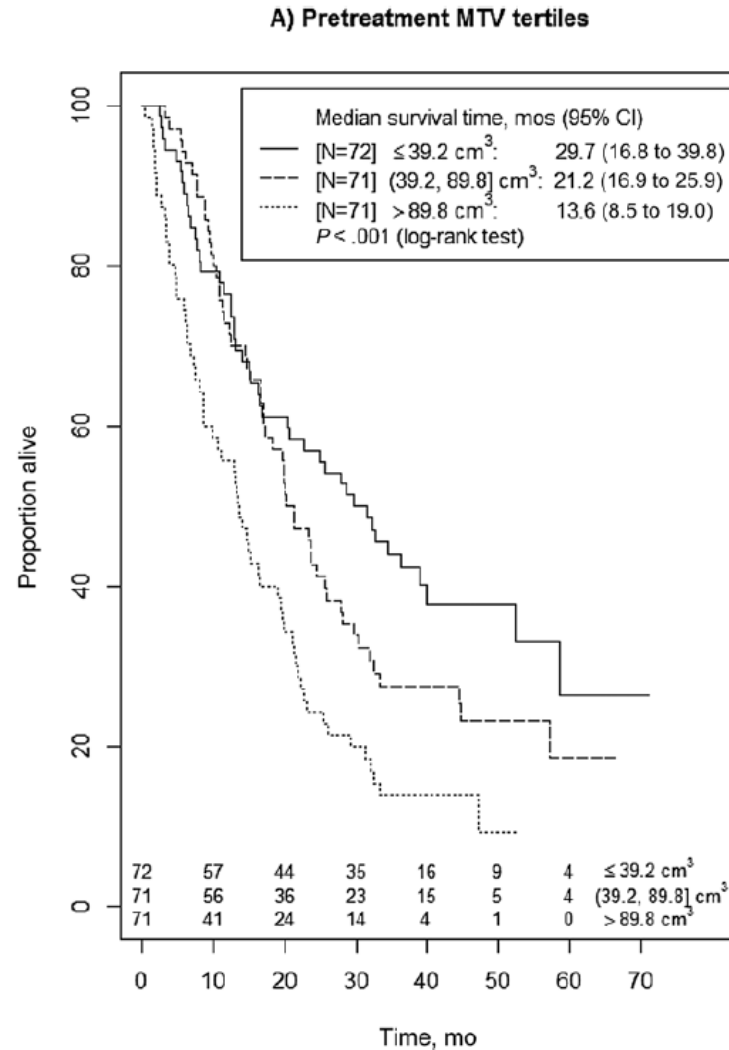
Median OS: 15.7 Mo

4 year OS: 20 %

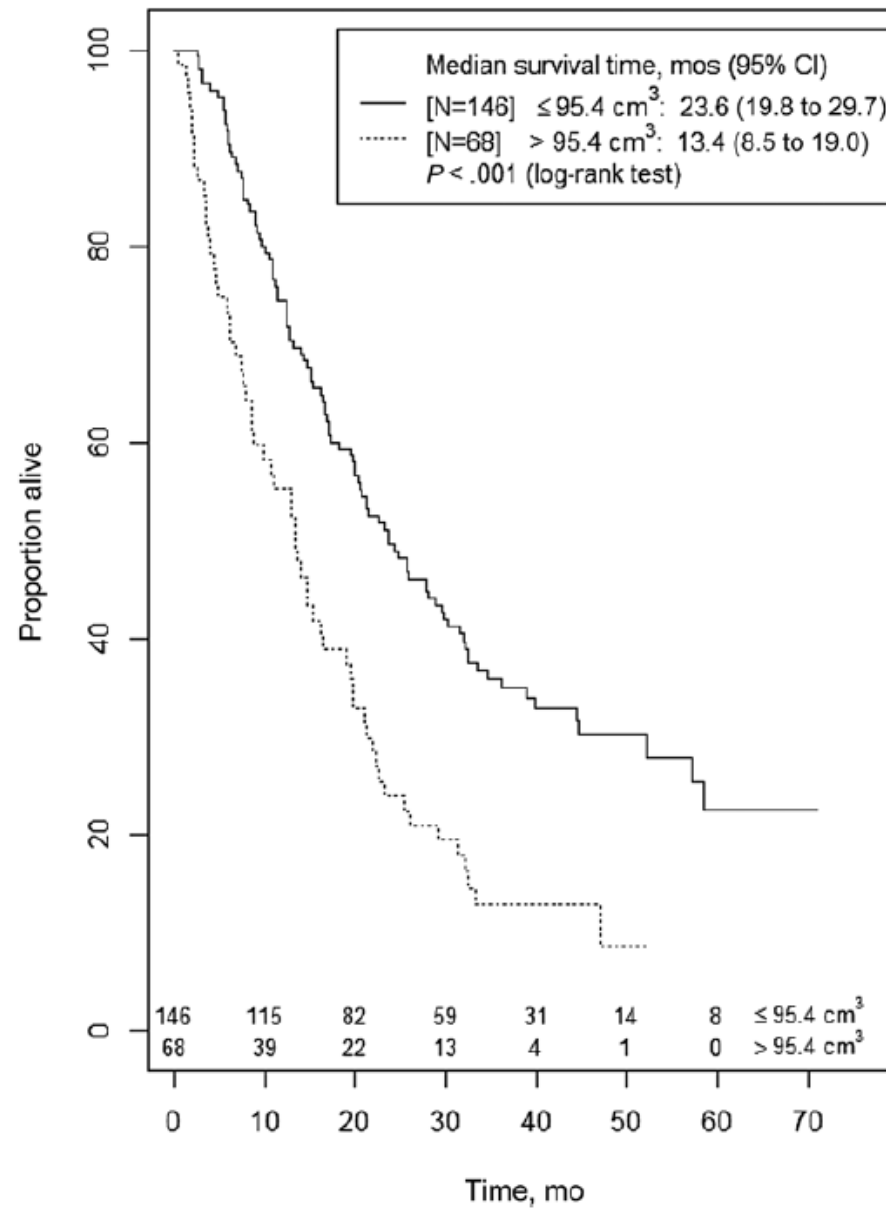


Pre-treatment FDG metrics: ACRIN 6668/RTOG 0235

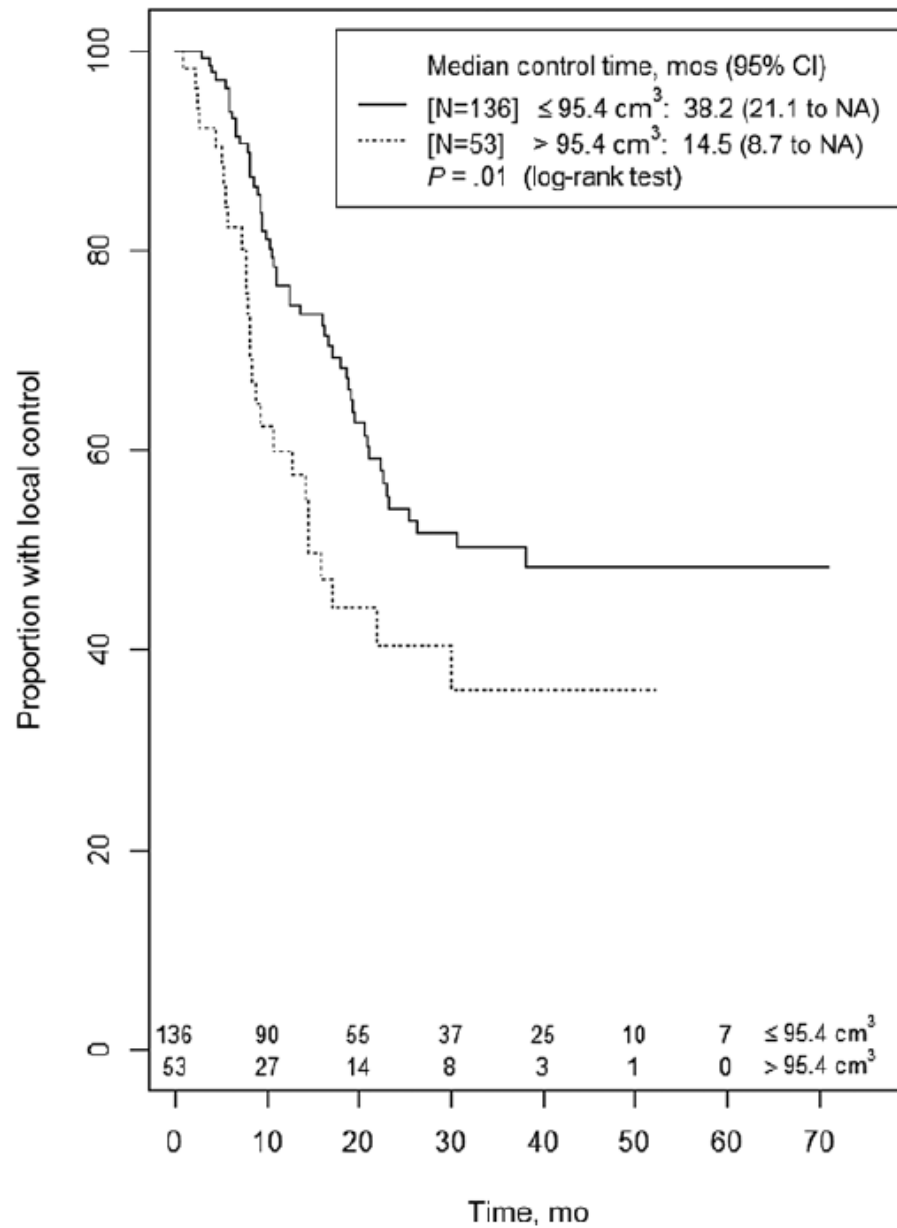
Concurrent chemo-RT



B) Pretreatment MTV optimal cutpoint

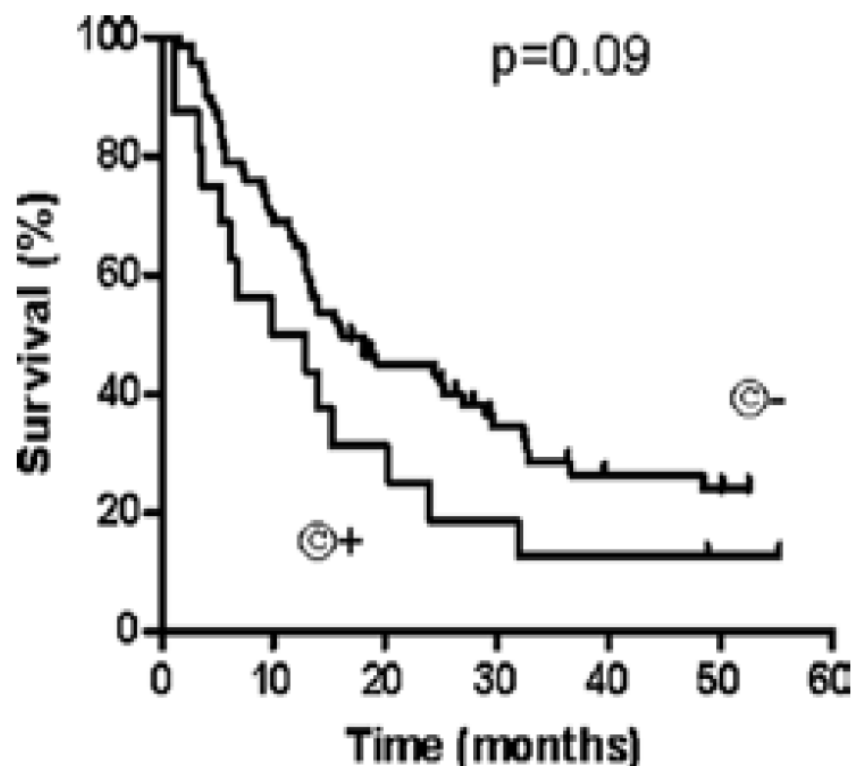


B) Pretreatment MTV optimal cutpoint



Risk of excavation

- N=87
- Median diameter: 6 cm
- Concurrent chemo-RT



Combination with surgery?

Other group of patients than in trials, but consider pre-operative chemo-RT

<u>Trial</u>	<u>N</u>	<u>Study design</u>	<u>5-year OS</u>	<u>Local Relapse*</u>
SAKK 00/16	232	Intensive** CT ➔ RT (44 Gy) ➔ S	40 %	24 %
		Intensive** CT ➔ S	34 % (NS)	35 %
US 0139	429	CT/RT (45 Gy) ➔ S ➔ CT	27 %	10 %
		CT/RT (61 Gy) ➔ CT	20 % (NS)	22 %
ESPATÜ	246	CT ➔ CT/RT (45 Gy) ➔ S	44 %	NR
		CT ➔ CT/RT (65 Gy)	40 % (NS)	NR

Conclusion: Long-term survival is possible

- Even in large tumours, chemo-RT leads to 20 % 5-year OS
- Concurrent and sequential accelerated RT are acceptable
- Median OS is short → Importance of sufficiently long follow-up to draw conclusions
- Risk of excavation!
- Consider surgery as part of a multi-modal treatment → Specialised centres