



# Can Whole Brain Radiation Be Omitted In Patients Receiving Radiosurgery for Solitary or Multiple Brain Metastases?

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## Background

The use of whole-brain radiation (WBRT) in the management of brain metastases treated with radiosurgery (RS) is controversial. In particular, its benefit in terms of overall survival has been questioned.

## Methods

Brain metastases treated with RS at Johns Hopkins between 4/0

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range, 18-92)

small cell lung cancer - 50, breast -18, melanoma -14, renal cell carcinoma - 11, other - 24

≥ 70 (median 80)

%, II – 80%, III – 5%

of metastases: 2 (range, 1-14)

alone after failing prior WBRT

alone for initial metastases

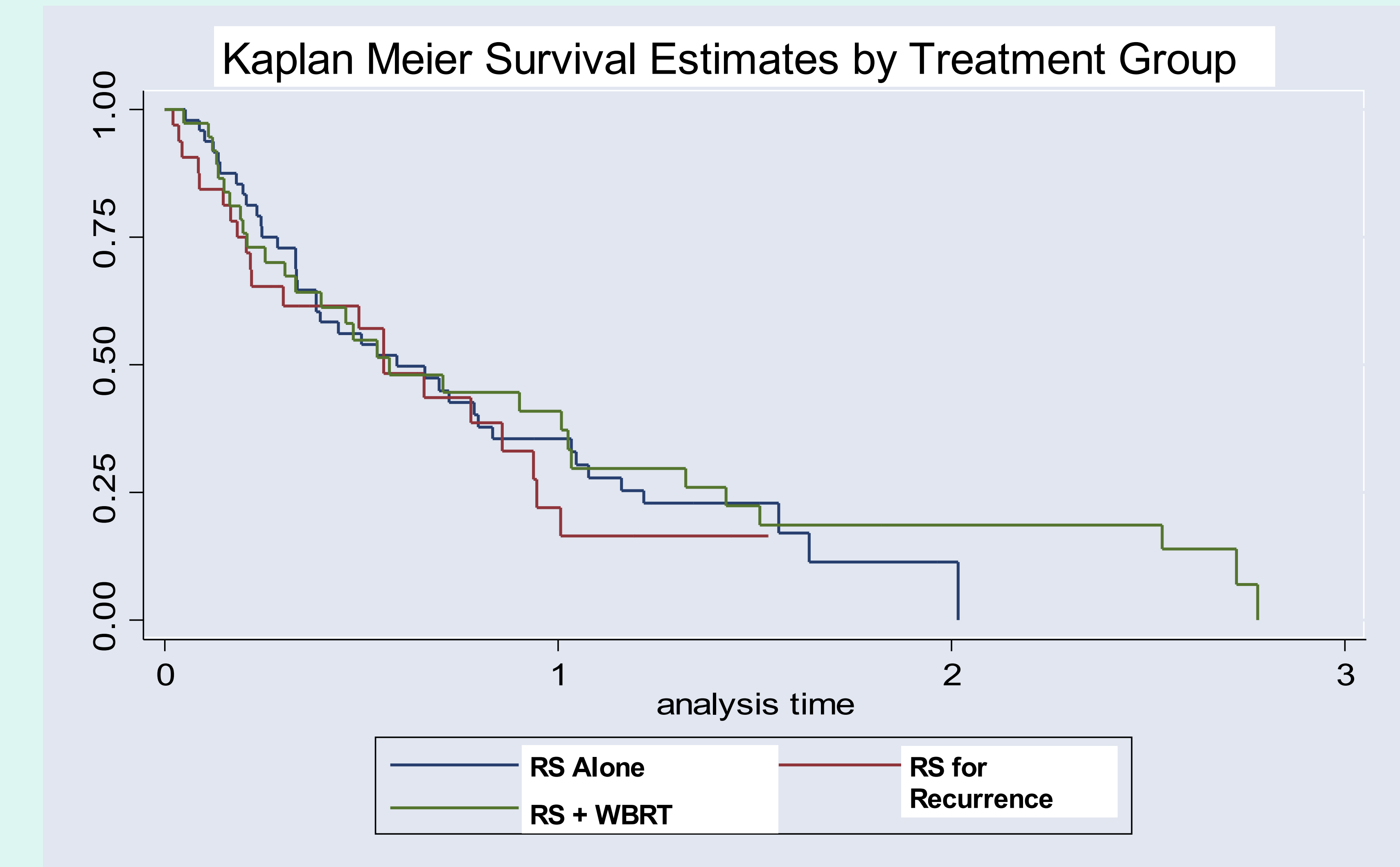
long with WBRT.

## Results

Median follow-up 6 months

	Median Survival	One-year overall survival
RS + planned WBRT	6.8 months	41%
RS alone	7.1 months	36%
RS after prior WBRT	6.7 months	22%

	Median Survival	One-year overall survival
1-3 metastases (n=85)	9.4 months	35%
≥4 metastases (n=32)	6.7 months	33%



## Conclusions

The median survival rate of 7.1 months in patients receiving RS alone is comparable to that seen in historical controls. Therefore, RS alone may be an effective treatment that preserves survival for those with single or multiple brain metastases at initial presentation or recurrence. The tradeoff between the increased risk of intracranial recurrence versus toxicity and time commitment for WBRT needs further evaluation.