

Online Resource 4: Subgroup analysis on patients undergoing microsurgical resection of a cerebral metastasis. The data is based on 357 patients, of which 47 underwent repeated surgery.

Logistic regression analysis estimating the relationship between repeated microsurgical resection of a cerebral metastasis and morbidity three months after surgery. The multivariate analysis is adjusted for baseline differences in age, sex, size and posterior fossa location of the tumor.

M3 morbidity	Univariate analysis			Multivariate analysis		
	OR	95% CI	p-value	OR	95% CI	p-value
Repeated surgery	1.40	0.69 – 2.86	0.355	1.60	0.77 – 3.34	0.207
Age (per year)	-	-	-	1.01	0.98 – 1.03	0.540
Male sex	-	-	-	1.84	1.08 – 3.14	0.026
Tumor size (per increase in category)	-	-	-	1.21	0.72 – 2.01	0.475
Posterior fossa location	-	-	-	1.38	0.74 – 2.55	0.311

Logistic regression analysis estimating the relationship between repeated microsurgical resection of a cerebral metastasis and morbidity at time of hospital discharge. The multivariate analysis is adjusted for baseline differences in age, sex, size and posterior fossa location of the tumor.

Discharge morbidity	Univariate analysis			Multivariate analysis		
	OR	95% CI	p-value	OR	95% CI	p-value
Repeated surgery	1.74	0.67 – 4.52	0.253	1.53	0.57 – 4.09	0.401
Age (per year)	-	-	-	1.02	0.99 – 1.06	0.243
Male sex	-	-	-	1.10	0.51 – 2.39	0.809
Tumor size (per increase in category)	-	-	-	0.62	0.29 – 1.30	0.204
Posterior fossa location	-	-	-	0.56	0.18 – 1.69	0.301

Logistic regression analysis estimating the relationship between repeated microsurgical resection of a cerebral metastasis and mortality three months after surgery. The multivariate analysis is adjusted for baseline differences in age, sex, size and posterior fossa location of the tumor.

M3 mortality	Univariate analysis			Multivariate analysis		
	OR	95% CI	p-value	OR	95% CI	p-value
Repeated surgery	0.59	0.20 – 1.74	0.342	0.66	0.22 – 1.98	0.462
Age (per year)	-	-	-	1.02	0.99 – 1.05	0.133
Male sex	-	-	-	1.58	0.83 – 3.00	0.164
Tumor size (per increase in category)	-	-	-	0.93	0.50 – 1.75	0.833
Posterior fossa location	-	-	-	1.75	0.86 – 3.56	0.125

This online supplementary document is part of the article “Repeated craniotomies for intracranial tumors: is the risk increased? Pooled analysis of two prospective, institutional registries of complications and outcomes” by Costanza Maria Zattra^{1,2}, MD; David Y. Zhang¹, MSc; Morgan Broggi², MD, PhD; Julia Velz¹, MD; Flavio Vasella¹, MD; Dominik Seggewiss¹, MD; Silvia Schiavolin³, PsyD; Oliver Bozinov¹, MD; Niklaus Kraysenbühl¹, MD; Johannes Sarnthein¹, PhD; Paolo Ferrolì², MD; Luca Regli¹, MD; Martin N. Stienen¹, MD, FEBNS

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