Table SI. Univariate Cox regression for survival analysis according to histological and molecular cancer subtypes.

| Localisation | Subtypes | Overall survival (months) | | Univariate COX regression | |
		median	[95% CI]	HR	[95% CI]
Lung	Genetic mutations				
	No	14	[10.6-17.4]	0.8	[0.49-1.29]
	Yes[a]	12	[2.8-21.2]		
	Histological subtype				
	Sclc	25	[0-51.9]	0.41	[0.17-1.03]
	Adenocarcinoma	16	[13.2-18.8]	0.53	[0.27-1.04]
	Squamous[a]	7	[5.5-8.5]		
Breast	Genetic subtype				
	3neg[a]	20	[2.7-37.3]		
	HR+/HER2+	35	[33.6-36.4]	0.7	[0.27-1.80]
	HR-/HER2+	23	[20.4-25.6]	0.82	[0.29-2.33]
	HR+/HER2-	27	[1-53.3]	0.99	[0.37-2.62]

Data are presented as median and 95% confidence interval (CI) survival time expressed in months. [a]Reference for calculating the hazard ratio in the univariable analysis. HER2, human epidermal growth factor receptor 2 protein positive breast cancers; HR, hormone receptors; sclc, small cells lung cancer; 3neg, triple negative breast cancer. Genetic mutations considered for lung cancers include: ALK/ROS-a/KRAS/EGFR positive lung cancers.

Table SII. Univariate and multivariate Cox regression for survival analysis. dPT group includes patients with at least 30 months of progression-free survival, before BM diagnosis, under no systemic treatment.

Parameters	Overall survival (months) Median	[95% CI]	Univariate COX regression HR	[95% CI]	Multivariate Cox regression HR	[95% CI]	P-value
Age BM	NA	NA	1.02	[1.01-1.03]	1.02	[1.00-1.03]	**0.025**
BM treatment							
Surgery + Rtp	17	[13.9-20.1]	0.5	[0.28-0.88]	0.55	[0.31-0.97]	**0.037**
Rtp or Surgery[a]	8	[2.7-13.3]			NA	NA	NA
PT localization							
Breast	34	[24.1-43.9]	0.64	[0.41-0.99]	0.74	[0.49-1.09]	0.132
Lung	14	[10.7-17.3]	1.02	[0.72-1.143]	NA	NA	NA
Other[a]	17	[11.4-22.6]			NA	NA	NA
dPT							
Yes	34	[21.3-46.7]	0.49	[0.24-0.99]	0.51	[0.25-1.05]	0.067
No[a]	16	[12.9-19.0]					

Data are presented as median and 95% confidence interval (CI) survival time expressed in months. [a]Reference for calculating the hazard ratio in the univariable analysis. BM, brain metastases; dPT, includes patients with at least 30 months of progression-free survival, before BM diagnosis, under no systemic treatment; NA, not applicable; PT, primary tumor; Rtp, radiotherapy. Multivariable Cox regression significant P-values (i.e. <0.05) are bold.