

# **Circulating Tumour Cell Release after Cement Augmentation of Vertebral Metastases**

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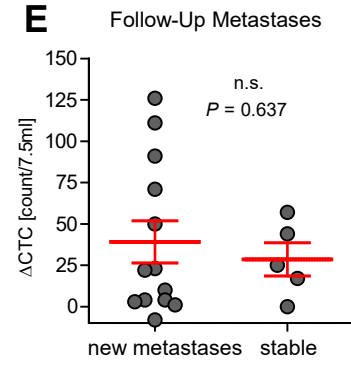
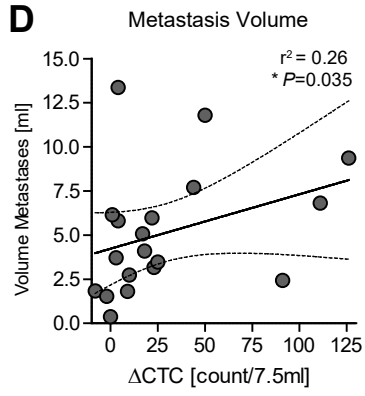
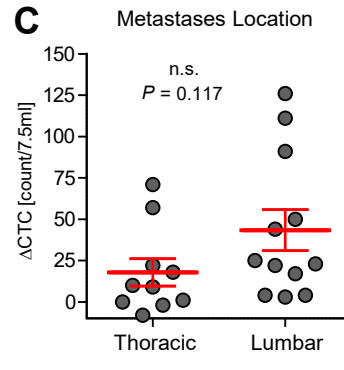
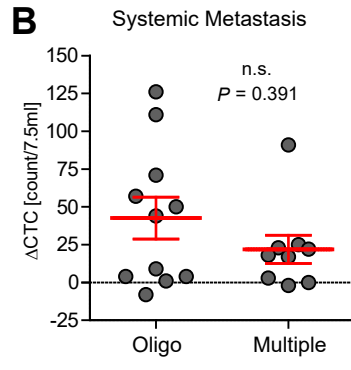
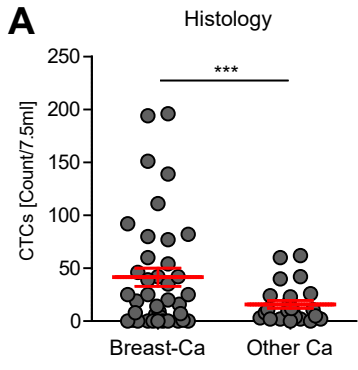
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### Supplementary Figure 1

A) CTC counts (CTC/7.5ml blood) of all three measurements (preOP, 20min, 3-5 days postOP) stratified by Histology. B) Increase of CTC counts ( $CTC_{preOP} - CTC_{20min} = \Delta CTC/7.5ml$ ) compared between patients with only one organ system affected by metastasis (Oligo) versus patients with metastasis in multiple organ systems (Multiple). C) Comparison of CTC release ( $\Delta CTC$ ) by location of metastasis within the spinal column. Bars and error depict mean and standard error (SE). D) Correlative comparison of CTC increase ( $\Delta CTC$ ) with metastasis volume [ml] with linear regression curve fit and 95% CI analysed by Spearman correlation. E) Comparison of CTC release ( $\Delta CTC$ ) by development of new metastasis during follow-up.

**Supplemental Table 1.** Breast-Ca Patient Characteristics

No.	Primary Tumor	Follow-up from VP [days]	death	Pathology Primary Tumor							Pathology Vertebral Metastasis				Metastatic spread*	Location of other Metastases
				ER	PR	Her2	T	N	M	G	ER	PR	Her2	GATA3		
1	Breast-Ca	812	yes	+	+	-	pT1c	pN1	M0	2	+	-	-	+	oligo	bone
2	Breast-Ca	710	no	+	+	-	pT2m	pN2a	M0	3	+	-	-	+	oligo	bone
3	Breast-Ca	338	yes	-	-	n.a.	pT1c	pN1	M0	n.a.	+	-	-	n.a.	multiple	liver, lymph nodes
4	Breast-Ca	n.a.	n.a.	+	+	-	pT1c	pN1	M0	2	n.a.	n.a.	n.a.	n.a.	multiple	bone, stomach
5	Breast-Ca	446	no	-	-	n.a.	pT2	pN0	M0	2	n.a.	n.a.	n.a.	n.a.	multiple	bone, lung
6	Breast-Ca	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	+	-	-	+	oligo	bone
7	Breast-Ca	412	no	+	+	n.a.	pT1c	pN1	M0	3	n.a.	n.a.	n.a.	n.a.	oligo	bone
8	Breast-Ca	250	no	+	+	-	pT2	pN0	M0	2	+	+	-	+	oligo	bone
9	Breast-Ca	178	no	+	+	-	pT3	pN2a	M0	2	n.a.	n.a.	n.a.	n.a.	oligo	bone
10	Breast-Ca	301	no	-	-	+	cT1	cN0	cM0	2	n.a.	n.a.	-	+	oligo	bone
11	Breast-Ca	303	no	+	+	-	pT1c	pN2a	M0	2	n.a.	n.a.	n.a.	+	multiple	bone
12	Breast-Ca	174	no	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-	-	-	+	oligo	bone
13	Breast-Ca	147	no	+	+	-	pT3	pN1a	pM1	2	n.a.	n.a.	n.a.	n.a.	multiple	bone, liver, lung, lymph node

\* Oligo = only one organ system affected

**Supplemental Table 1:** Characteristics of breast-cancer patients. ER: estrogen receptor, PR: progesterone receptor, TNM stages, n.a.: not available, oligo: only one organ system affected

**Supplemental Table 2.** Other Tumor Entities – Patient Characteristics

No.	Primary Tumor	Follow-up from VP [days]	death	Pathology Primary Tumor				Pathology Vertebral Metastasis				Metastatic spread*	Location of other Metastases	
				Histology	T	N	M	G	AE1/AE3	CK7	CK5/6			TTF-1
14	NSCLC	239	no	Adenocarcinoma	cT4	cN2	cM1	n.a.	+	+	-	+	multiple	bone, lung, liver
15	NSCLC	13	yes	Adenocarcinoma	n.a.	n.a.	n.a.	n.a.	+	+	-	+	oligo	bone
16	NSCLC	449	no	Adenocarcinoma	n.a.	n.a.	n.a.	n.a.	+	+	-	+	oligo	bone
17	NSCLC	374	no	Adenocarcinoma	cT2	cN2	pM1	n.a.	n.a.	n.a.	n.a.	+	oligo	bone
18	NSCLC	118	no	Adenocarcinoma	cT1a	cN0	pM1b	n.a.	+	+	-	-	oligo	bone
19	Colorectal-Ca	80	n.a.	-	pT4a	pN2a	M1	3	n.a.	n.a.	n.a.	n.a.	multiple	liver, lung, lymph node
20	Urothel-Ca	132	n.a.	-	cT4	cN2	cM1	n.a.	n.a.	n.a.	+	n.a.	multiple	bone, lung, lymph node
21	Prostate-Ca	577	no	-	n.a.	n.a.	n.a.	n.a.	+	-	n.a.	-	multiple	bone

\* Oligo = only one organ system affected

**Supplemental Table 2:** Characteristics of non-breast-cancer patients. NSCLC: non-small cell lung-cancer, TNM stages, n.a.: not available, oligo: only one organ system affected