

PREDICTION OF BENEFIT FROM CONSOLIDATION CHEMOTHERAPY FOR CERVICAL CANCER PATIENTS USING A CLINICAL PROGNOSTIC SCORE

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Objectives: The use of consolidation chemotherapy (CCT) after chemoradiation (CRT) in cervical cancer remains debatable. We evaluated the impact of CCT added to standard CRT and sought to identify predictive factors of CCT benefit.

Methods: This retrospective study reviewed 216 patients with 2014 FIGO stage IB2-IIA2, and IIB-IVB (para-aortic nodes only) cervical cancer treated with CRT alone or CRT followed by CCT (CCT group). Firstly, we assessed the prognostic role of CCT. Moreover, we developed a prognostic score for distant metastasis free survival (DMFS).

Characteristics	Freq (%)		p
	Consolidation CT	No Consolidation CT	
Number of patients (%)	72 (33.3)	144 (66.7)	
Age (median/P25-75)	40 (34-53)	50 (42-63)	
≤ 35	21 (29.2)	15 (10.4)	< 0.001
> 35	51 (70.8)	144 (89.6)	
RT 2D			
No	67 (93.1)	26 (18.6)	< 0.001
Yes	5 (6.9)	114 (81.4)	
ECOG			
0	44 (61.1)	90 (63.8)	0.698
≥ 1	28 (38.9)	51 (36.2)	
Histology			
CEC	52 (72.2)	110 (78.6)	0.302
Adeno	20 (28.1)	30 (21.4)	
Grade			
≤ 2	40 (69.0)	66 (58.4)	0.178
3	18 (31.0)	47 (41.6)	
Size			
> 4 cm	8 (15.7)	19 (21.3)	0.414
≥ 4 cm	43 (84.3)	70 (78.7)	
Stage			
≤ IIB	6 (8.3)	16 (11.3)	0.494
≥ IIIA	66 (91.7)	125 (88.7)	
Lymphnode			
positive	28 (38.9)	61 (45.2)	0.383
Negative	44 (61.1)	74 (54.8)	
Concomitant CT			
< 6 cycles	17 (23.6)	47 (35.6)	0.078
≥ 6 cycles	55 (76.4)	85 (64.4)	
Brachytherapy			
Yes	69 (95.8)	124 (87.9)	0.062
No	3 (4.2)	17 (12.1)	

Table 1 – Clinical characteristics

Characteristic	OS		PFS		DMFS	
	HR (95% CI)	p	HR (95% CI)	p	HR (95% CI)	p
Consolidation CT						
No	1	0.023	1	0.005	1	0.010
Yes	0.35 (0.15-0.87)		0.41 (0.22-0.76)		0.40 (0.12-0.80)	
Stage						
≤ IIB	1	0.037	1	0.014	1	0.06
≥ IIIA	2.00 (1.04-3.86)		2.03 (1.15-3.57)		1.86 (0.99-3.49)	
Concomitant CT						
≥ 6 cycles	1	0.019	1	0.001	1	0.03
< 6 cycles	2.13 (1.14-4.00)		2.04 (1.19-3.50)		1.94 (1.06-3.56)	
RT 2D						
No	1	0.236	-	-	-	-
Yes	1.52 (0.76-3.04)					
Histology						
CEC	-		1	< 0.001	1	< 0.001
Adeno			3.07 (1.66-5.66)		3.52 (1.77-7.00)	
Lymphnode						
Negative	-		1	0.002	1	< 0.001
Positive			2.60 (1.41-4.88)		3.85 (1.84-8.05)	
Grade						
≤ 2	-		-		-	
3						

Table 2 – Multivariable cox regression analysis for OS, PFS, DMFS and LRFS

Results: After 42.8 months of median follow up 144 patients were treated with standard CRT and 72 with CCT. Clinical characteristics were comparable between groups, except CCT patients were younger ($p < 0.001$) and less frequently treated with 2D radiation techniques (81.4% vs. 93.1%, $p = 0.023$) (table 1). Median survivals were not reached in both groups. In multivariate analyses, CCT was related to longer overall survival (OS) (HR 0.35, $p = 0.023$), progression free survival (HR 0.41, $p = 0.005$) and DMFS (HR 0.40, $p = 0.010$) but not locoregional control (table 2)(figure 1A and B). Potential negative factors for DMFS included lymph node status, adenocarcinoma histology, and stage III or IV and formed a four-tier score (0 to 3 points) with good discrimination ($p < 0.001$) (figure 1C). The benefit of CCT was present among patients with a score > 1 (OS: $p = 0.014$; DMFS: $p = 0.023$) but not for patients with score ≤ 1 (OS: $p = 0.310$; DMFS: $p = 0.179$) (figure 2)..

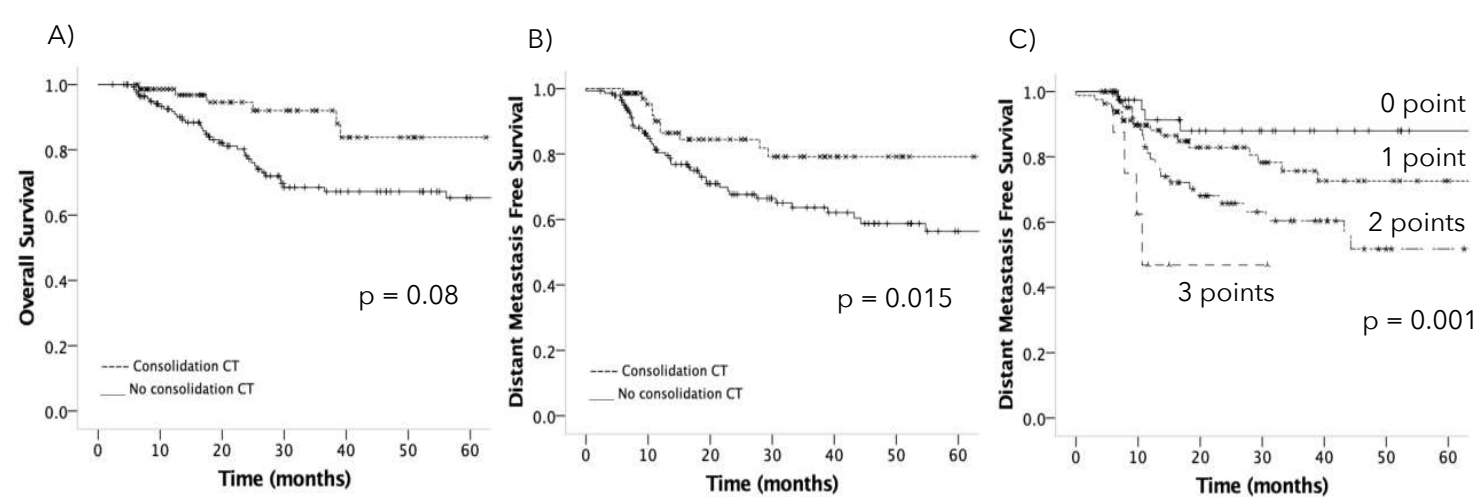


Figure 1 – Overall survival (A) and distant metastasis free survival (B) according to consolidation chemotherapy. (C) Distant metastasis free survival according to the four tier prognostic score

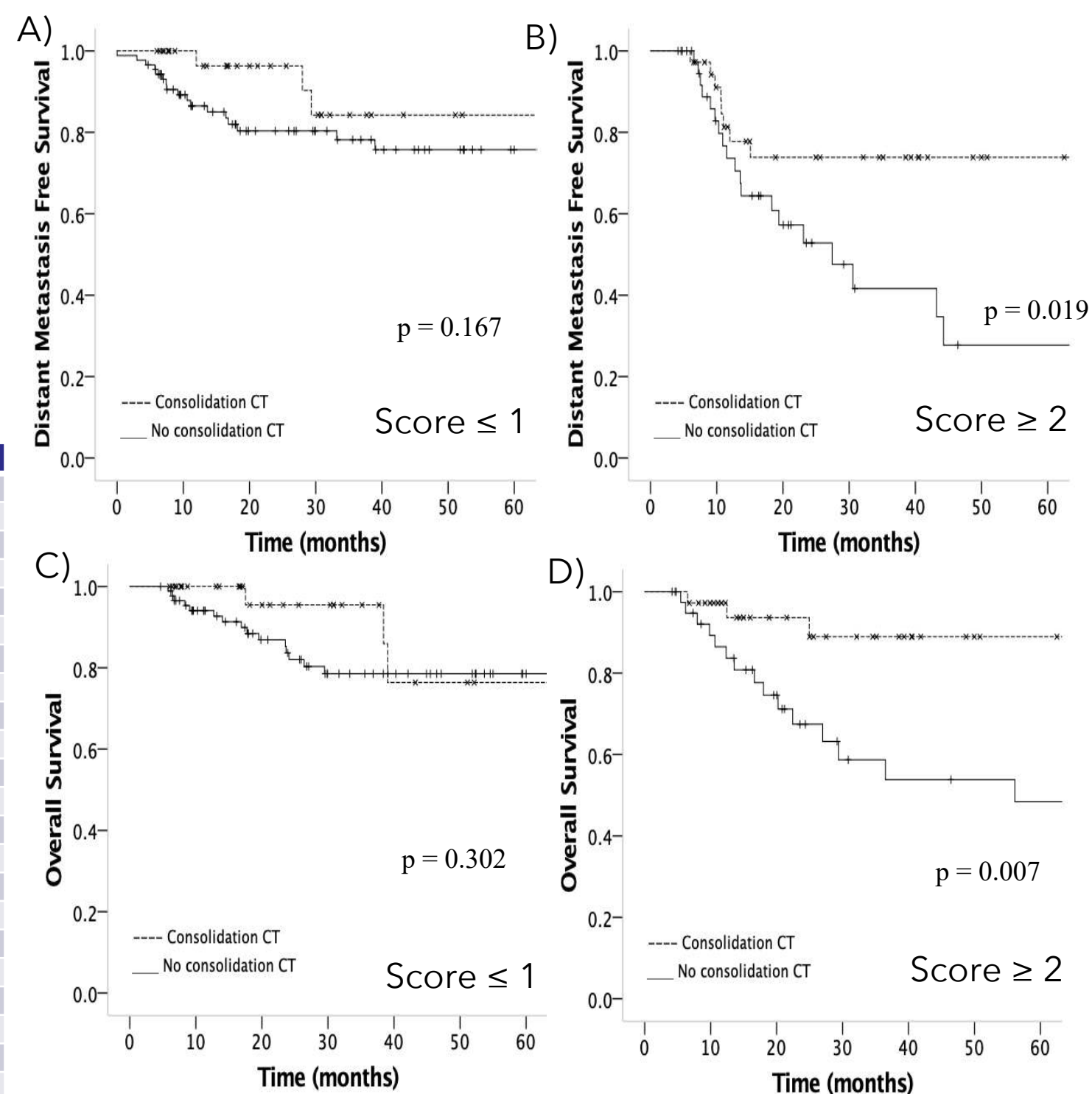


Figure 2 – Distant metastasis free survival (DMFS) according to consolidation chemotherapy in the subgroups of patients with score ≤ 1 (A) or score ≥ 2 (B). Overall survival (OS) according to consolidation chemotherapy in the subgroups of patients with score ≤ 1 (C) or score ≥ 2 (D).

Conclusion: A clinical score may predict CCT benefit. If this score withstands external validation, it may contribute to better selection for CCT.