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SUPPLEMENTAL DATA

HALP outperforms systemic inflammatory biomarkers for prognosis in locally advanced cervical cancer treated with concurrent chemoradiotherapy

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Full article is available at the following link: HALP outperforms systemic inflammatory biomarkers for prognosis in locally advanced cervical cancer treated with concurrent chemoradiotherapy

Table S1. Summary of exclusion reasons by center.

Exclusion reason	Center 1 (*n*=56)	Center 2 (*n*=40)	Total excluded (*n*=96)
Hematologic or autoimmune diseases	8	6	14
Presence of distant metastasis (M1)	12	8	20
Incomplete laboratory data	18	14	32
Incomplete clinicopathological data (e.g., HPV, tumor size)	6	4	10
Incomplete follow-up data	4	3	7
Receipt of anticancer treatment before CCRT	5	3	8
Undergoing radical surgery or lymph node staging operations	3	2	5
Total excluded	56	40	96

Abbreviations: CCRT: Concurrent chemoradiotherapy; HPV: Human papillomavirus; M1: Distant metastasis.

Table S2. Distribution of missing baseline variables by center prior to exclusion.

Variable	Center 1	Center 2	Total missing
Neutrophil count	12	9	21
Lymphocyte count	10	7	17
Monocyte count	6	4	10
Platelet count	8	5	13
Hemoglobin	7	6	13
Albumin	5	4	9
HPV status	8	5	13
Tumor size	3	2	5

Note: Missing values were documented before implementing the complete-case exclusion strategy. As patients may have multiple missing variables, the total number of missing values may exceed the number of excluded patients reported in Table S2.

Table S3. Evaluation of twelve inflammatory biomarkers in this study.

Biomarker name	Biomarker components
Pan-immune-inflammation value (PIV)	Neutrophil ($\times 10^9$/L) × platelet ($\times 10^9$/L) × monocyte ($\times 10^9$/L) / lymphocyte ($\times 10^9$/L)
Neutrophil-to-lymphocyte ratio (NLR)	Neutrophil ($\times 10^9$/L) / lymphocyte ($\times 10^9$/L)
Lymphocyte-to-monocyte ratio (LMR)	Lymphocyte ($\times 10^9$/L) / monocyte ($\times 10^9$/L)
Platelet-to-lymphocyte ratio (PLR)	Platelet ($\times 10^9$/L) / lymphocyte ($\times 10^9$/L)
Systemic immune-inflammation index (SII)	Platelet ($\times 10^9$/L) × neutrophil ($\times 10^9$/L) / lymphocyte ($\times 10^9$/L)
Systemic inflammation response index (SIRI)	Neutrophil ($\times 10^9$/L) × monocyte ($\times 10^9$/L) / lymphocyte ($\times 10^9$/L)
Neutrophil-albumin ratio (NAR)	Neutrophil ($\times 10^9$/L) / albumin (g/L)
Lymphocyte × albumin (LA)	Lymphocyte ($\times 10^9$/L) × albumin (g/L)
Neutrophil × monocyte (NM)	Neutrophil ($\times 10^9$/L) × monocyte ($\times 10^9$/L)
Neutrophil × platelet (NP)	Neutrophil ($\times 10^9$/L) × platelet ($\times 10^9$/L)

Monocyte × platelet (MP)	Monocyte (×10⁹/L) × platelet (×10⁹/L)
Hemoglobin, albumin, lymphocyte, and platelet (HALP)	Hemoglobin (g/L) × albumin(g/L) × lymphocyte count (×10⁹/L) / platelet count (×10⁹/L)

For a hypothetical patient with the following laboratory values: hemoglobin = 130 g/L, albumin = 40 g/L, lymphocyte count = 1.5 × 10⁹/L, neutrophil count = 4.0 × 10⁹/L, monocyte count = 0.5 × 10⁹/L, and platelet count = 250 × 10⁹/L, the calculations are as follows: 1. HALP = (Hemoglobin × Albumin × Lymphocyte) / Platelet = (130 × 40 × 1.5) / 250 = 31.2; 2. PIV = (Neutrophil × Platelet × Monocyte) / Lymphocyte = (4.0 × 250 × 0.5) / 1.5 = 333.3. **Abbreviations**: PIV: Pan-immune-inflammation value; NLR: Neutrophil-to-lymphocyte ratio; LMR: Lymphocyte-to-monocyte ratio; PLR: Platelet-to-lymphocyte ratio; SII: Systemic immune-inflammation index; SIRI: Systemic inflammation response index; NAR: Neutrophil-to-albumin ratio; LA: Lymphocyte × albumin; NM: Neutrophil × monocyte; NP: Neutrophil × platelet; MP: Monocyte × platelet; SIS: Systemic inflammation score.

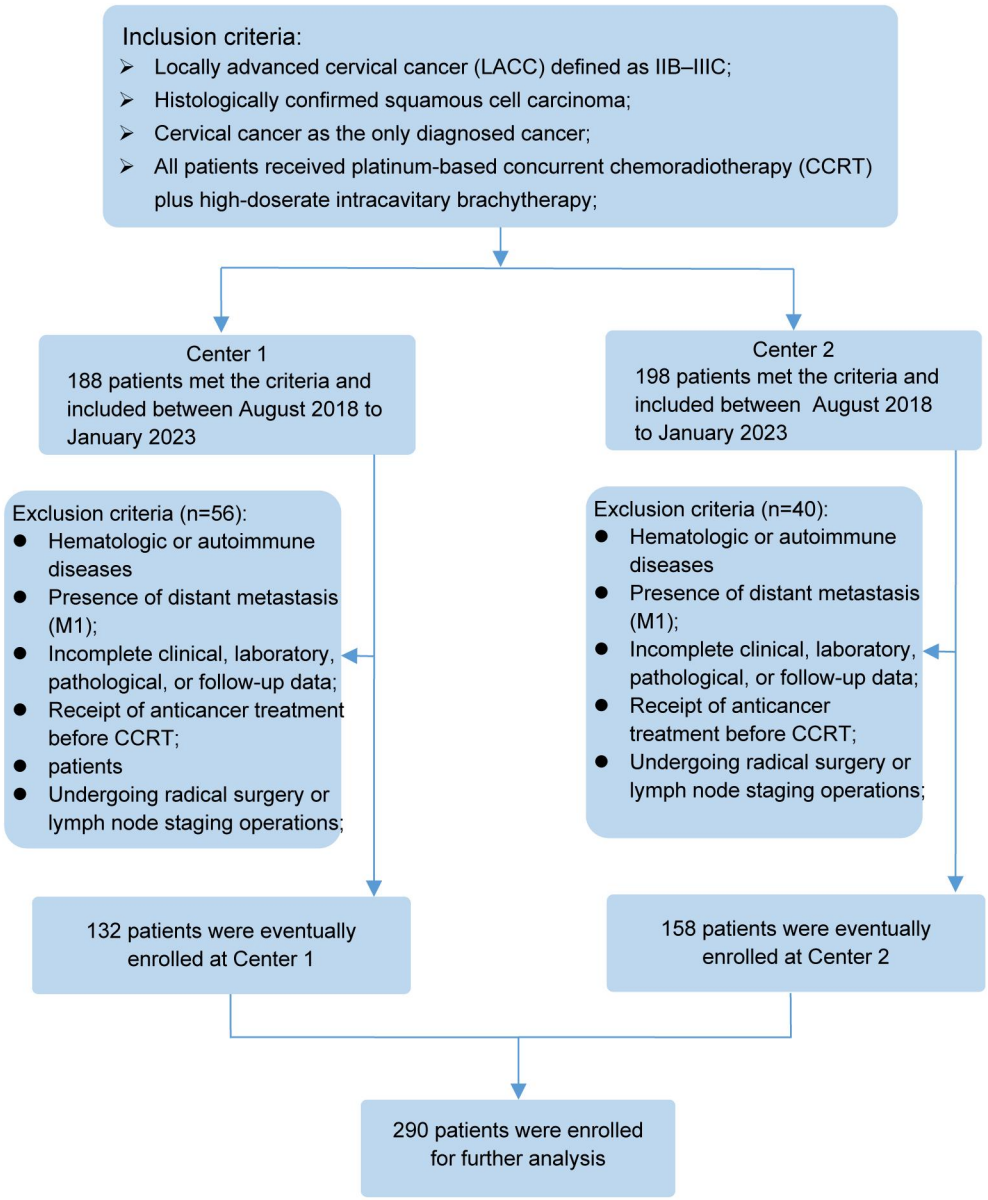


Figure S1. Flowchart illustrating patient selection in this study. Center 1, The Affiliated Hospital of Jiangnan University; Center 2, The Affiliated Suzhou Hospital of Nanjing Medical University.

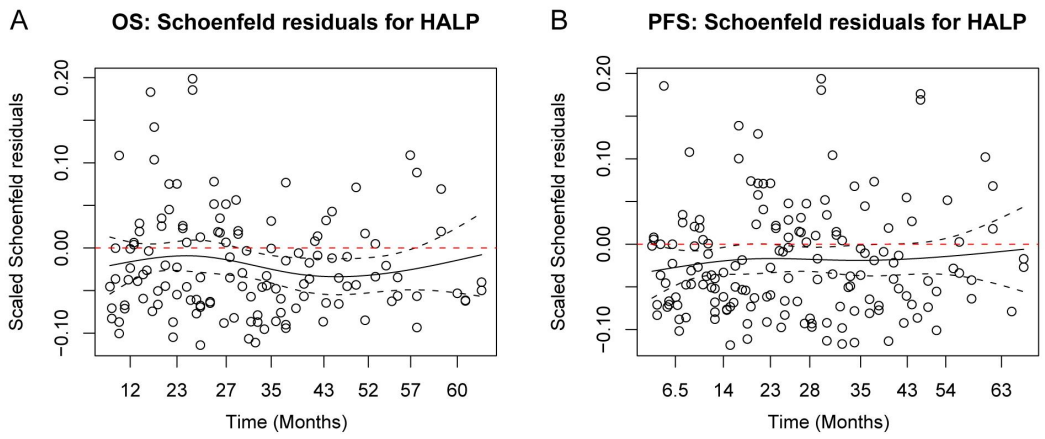


Figure S2. Schoenfeld residual plots for assessment of the proportional hazards assumption of the HALP score. (A) Scaled Schoenfeld residuals for HALP in the overall survival model. **(B)** Scaled Schoenfeld residuals for HALP in the progression-free survival model. In both models, the smoothed residual patterns remained close to zero without evident time-dependent trends, indicating that the proportional hazards assumption was not violated. **Abbreviations**: HALP: Hemoglobin–albumin–lymphocyte–platelet score; OS: Overall survival; PFS: Progression-free survival.