Supplementary Table 1. Comparison of clinical and pulmonary parameters between groups with and without early HSCT complications

Variable	Without early complication (n = 60) mean ± SD	Early complication (n = 23) mean ± SD	*P* value
Age (years)	48.0±14.8	51.5±12.7	0.368
Smoking (pack-years)	9.2±15.9	11.3±13.2	0.288
BMI (kg/m^2)	28.2±4.8	29.2±6.2	0.418
FEV_1/FVC (%)	82.9±7.8	80.9±6.7	0.191
FEV_1 (%)	94.7±20.5	98.1±17.6	0.499
FVC (%)	95.5±20.1	100.4±22.0	0.418
FEF_{25-75} (%)	79.8±23.5	76.6±28.1	0.254
Dysanapsis ratio (FEF_{25-75}/FVC)	0.87±0.39	0.79±0.32	0.183
DLCO_SB (%)	83.9±20.3	84.4±15.7	0.604
DLCO/VA (%)	91.1±18.6	95.6±15.3	0.370
Neutrophil recovery (days)	11.3±3.6	9.3±2.8	**0.014**

HSCT: hematopoietic stem cell transplantation, SD: standard deviation, BMI: body mass index, FEV_1: forced expiratory volume in one second, FVC: forced vital capacity, FEF_{25-75}: forced expiratory flow between 25% and 75% of forced vital capacity, DLCO_SB: single-breath diffusing capacity of the lung for carbon monoxide, DLCO/VA: diffusing capacity of the lung for carbon monoxide adjusted for alveolar volume

Supplementary Table 2. Comparison of clinical and pulmonary parameters between patients with and without mortality

Variable	Without mortality (n = 73) mean ± SD	Mortality (n = 10) mean ± SD	*P* value
Age (years)	49.6±14.2	44.2±14.3	0.291
Smoking (pack-years)	10.3±15.8	6.0±9.7	0.497
BMI (kg/m^2)	28.5±5.4	28.2±4.1	0.972
FEV_1/FVC (%)	82.1±7.7	83.6±6.3	0.321
FEV_1 (%)	95.4±20.6	97.4±11.7	0.580
FVC (%)	96.7±21.5	97.9±13.6	0.675
FEF_{25-75} (%)	78.4±25.7	78.4±25.7	0.341
Dysanapsis ratio (FEF_{25-75}/FVC)	0.85±0.39	0.86±0.20	0.458
DLCO_SB (%)	84.3±18.8	81.8±21.5	0.480
DLCO/VA (%)	91.7±18.4	97.0±11.8	0.385
Neutrophil recovery (days)	10.4±3.2	13.1±4.2	0.049

SD: standard deviation, BMI: body mass index, FEV_1: forced expiratory volume in one second, FVC: forced vital capacity, FEF_{25-75}: forced expiratory flow between 25% and 75% of forced vital capacity, DLCO_SB: single-breath diffusing capacity of the lung for carbon monoxide, DLCO/VA: diffusing capacity of the lung for carbon monoxide adjusted for alveolar volume

Supplementary Table 3. Collinearity diagnostics for variables included in the multivariable logistic regression model

Predictor	VIF	Tolerance
Age	1.30	0.768
Ever smoker	1.22	0.817
FEF_{25-75} <75% predicted	1.13	0.883
FEV_1 <80% predicted	1.25	0.797
Sex	1.15	0.872
HSCT type	1.36	0.736

Description: Collinearity diagnostics were assessed for variables included in the multivariable model. VIF values ranged from 1.13 to 1.36, with tolerance values ranging from 0.736 to 0.883. These findings indicate no evidence of problematic multicollinearity among the included predictors

VIF: variance inflation factor, FEV_1: forced expiratory volume in one second, FEF_{25-75}: forced expiratory flow between 25% and 75% of forced vital capacity, HSCT: hematopoietic stem cell transplantation

Supplementary Table 4. Receiver operating characteristic analysis for pulmonary function parameters in predicting post-HSCT complications

Parameter	AUC	Standard error	95% CI (lower–upper)	*P* value
Age	0.551	0.0638	0.426–0.676	0.428
Pre-op FEV_1/FVC	0.546	0.0646	0.419–0.673	0.477
FEV_1 (%)	0.504	0.0645	0.377–0.630	0.955
FVC (%)	0.506	0.0665	0.376–0.636	0.927
FEF_{25-75} (%)	**0.578**	0.0651	0.450–0.705	0.233
DLCO_SB (%)	0.495	0.0645	0.369–0.622	0.943

HSCT: hematopoietic stem cell transplantation, AUC: area under the curve, CI: confidence interval, FEV_1: forced expiratory volume in one second, FVC: forced vital capacity, FEF_{25-75}: forced expiratory flow between 25% and 75% of forced vital capacity, DLCO_SB: single-breath diffusing capacity of the lung for carbon monoxide, DLCO/VA: diffusing capacity of the lung for carbon monoxide adjusted for alveolar volume

Supplementary Table 5. Association between pretransplant FEV_1 <80% and any post-HSCT complication

FEV_1 group	No complication (n = 51)	Any complication (n = 32)	Total (n = 83)
≥80% predicted	39	30	69
<80% predicted	12	2	14
Total	51	32	83

Chi-square test: $\chi^2 = 4.19$, df = 1, $P = 0.041$

Fisher's exact test: $P = 0.068$

FEV_1: forced expiratory volume in one second, HSCT: hematopoietic stem cell transplantation, χ^2: chi-square, df: degrees of freedom