

Supplemental Online Content

Id Said B, Ailles L, Karamboulas C, et al. Development and validation of an oral cavity cancer outcomes prediction score incorporating patient-derived xenograft engraftment. *JAMA Otolaryngol Head Neck Surg*. Published online March 3, 2022. doi:10.1001/jamaoto.2022.0003

eTable. Results of Univariable analysis for locoregional failure and distant metastasis

eFigure 1. Venn diagram of patterns of disease failure (N= 121)

eFigure 2. Incidence of locoregional failure (2a), distant metastases (2b) and overall survival (2c) according to high- (n=145) vs low-risk groups (n=143) with 8th edition AJCC staging using Tumor Thickness (TT) as a surrogate for Depth of invasion (DOI)

eFigure 3. Locoregional failure in low-risk clinical group (3a) and distant metastasis in high-risk clinical group (3b) according to engraftment

eFigure 4. Kaplan-Meier curve of overall survival in OSCC high- vs low-risk groups (n=177)

eFigure 5. Kaplan-Meier curve of overall survival in high- (5a) and low-risk (5b) clinical groups according to engraftment

eFigure 6. Kaplan-Meier curve of overall survival in rapid (n=41) vs slow/non-engrafters (n=247)

eFigure 7. Locoregional failure (7a), distant metastasis (7b) and overall survival (7c) in high- vs low- risk groups (PORT cohort)

eFigure 8. Kaplan-Meier curve of LRF in engrafters and non-engrafting patients who did not receive PORT (T1-2 N0-1 with negative margins and no ENE)

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable. Results of Univariable analysis for locoregional failure and distant metastasis

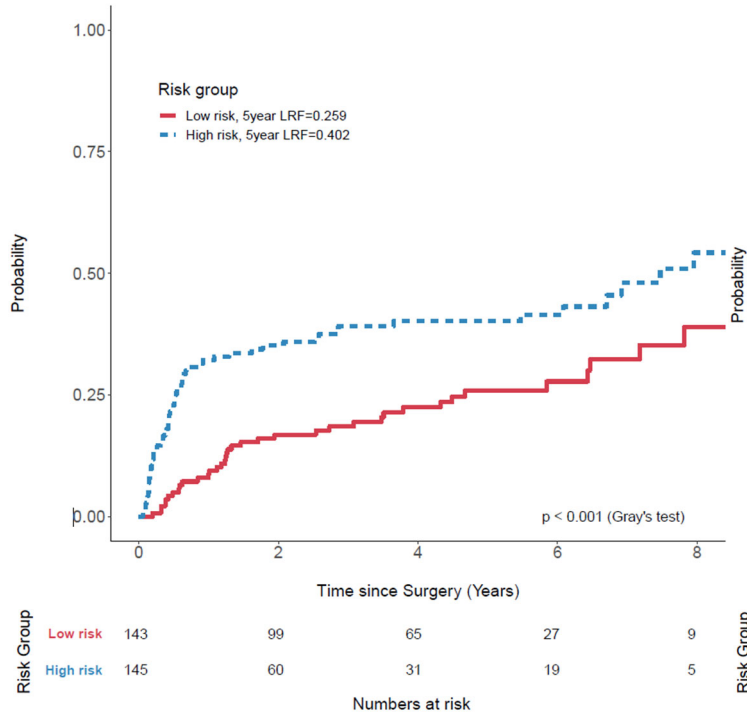
Covariate	HR(95%CI)	Global p-value
Female	Reference	
Male	0.91 (0.64,1.32)	
Age Dx	0.99 (0.98,1.01)	0.43
PORT		<0.001
No	Reference	
Yes	3.1 (2,4.78)	
Subsite		
Other	Reference	0.75
Tongue	2.63 (1.43,5.15)	
pT 7th		<0.001
T1-2	Reference	
T3-4	2.25 (1.58,3.22)	
pN 7th		<0.001
N0-1	Reference	
N2-3	2.38 (1.67,3.41)	
pStage 7th		<0.001
I	Reference	
II	1.64 (0.69,3.9)	
IV	4.07 (1.76,9.41)	
Margin		0.019
Clear and/or close	Reference	
Positive	1.68 (1.09,2.6)	
Bone invasion		0.084
No	Reference	
Yes	1.54 (0.94,2.51)	
LVI		0.37
No	Reference	
Yes	1.54 (0.59,4.03)	
PNI		0.021
No	Reference	
Yes	1.54 (1.07,2.23)	
Grade		0.0074
1-2	Reference	
3	1.69 (1.15,2.47)	
ENE		<0.001
No	Reference	
Yes	3.06 (2.07,4.52)	
Total LN positive	1.13 (1.08,1.18)	<0.001
Level 4 5 LN		<0.001
No	Reference	
Yes	2.67 (1.62,4.39)	
Max tumor size	1.33 (1.18,1.49)	<0.001
Engraftment		<0.001
Non-Engrafter	Reference	
Engrafter	2.35 (1.53,3.6)	

eFigure 1. Venn diagram of patterns of disease failure (N= 121)

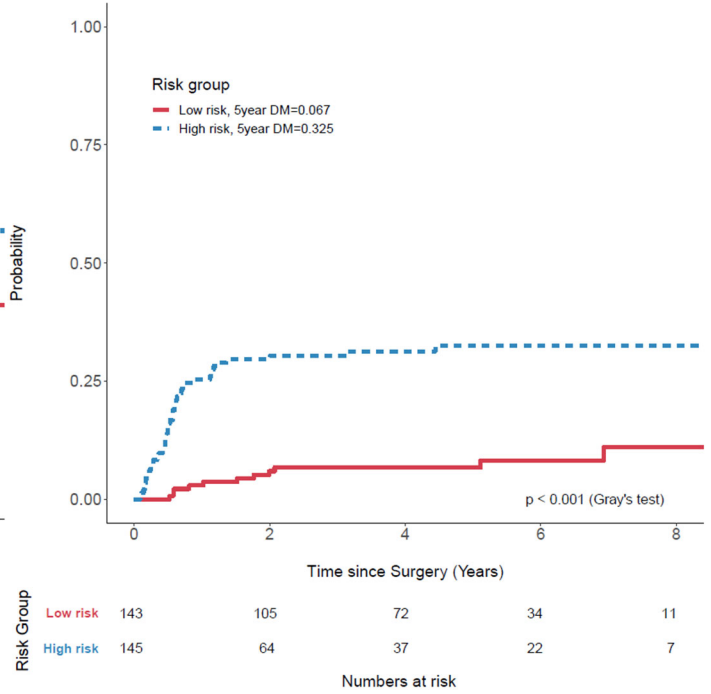


eFigure 2. Incidence of locoregional failure (2a), distant metastases (2b) and overall survival (2c) according to high- (n=145) vs low-risk groups (n=143) with 8th edition AJCC staging using Tumor Thickness (TT) as a surrogate for Depth of invasion (DOI)

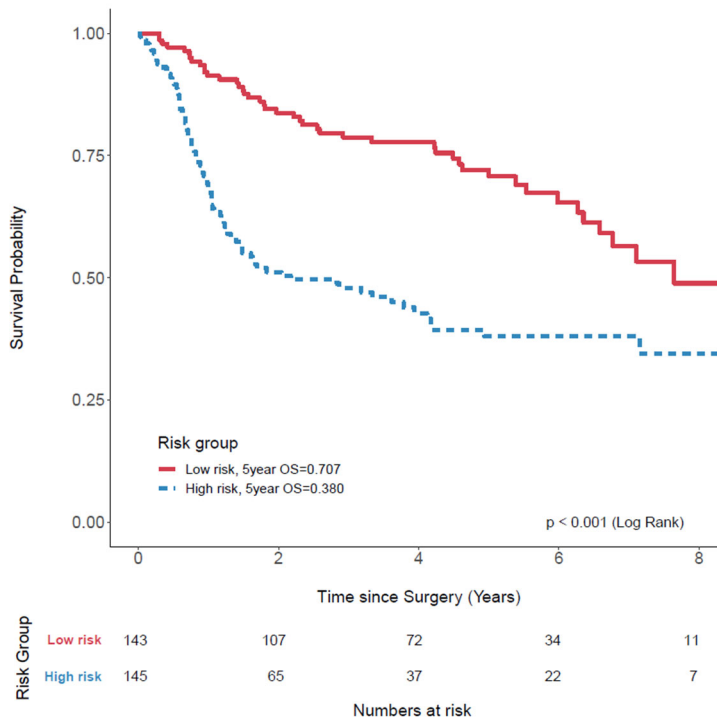
2a) Locoregional Failure



2b) Distant Metastases

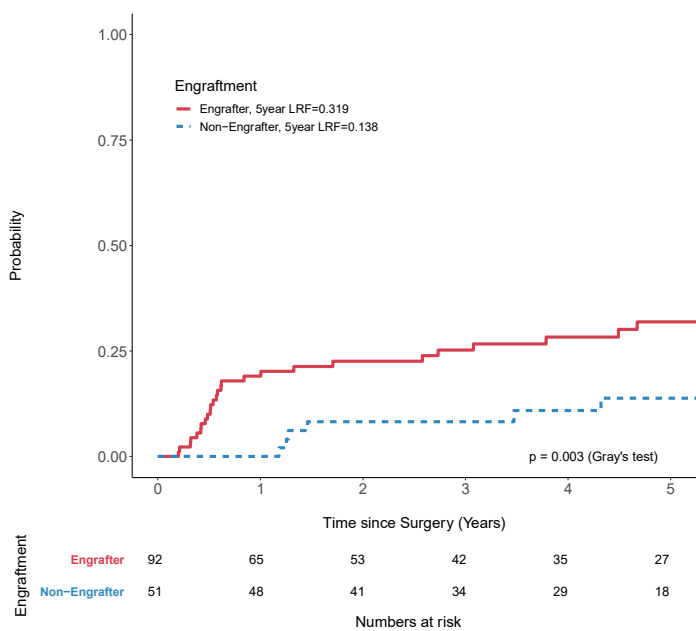


2c) Overall Survival

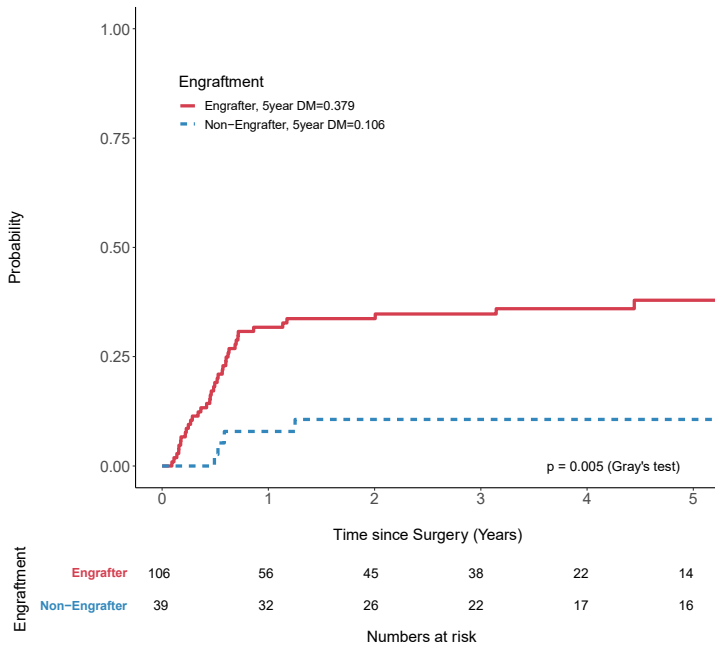


eFigure 3. Locoregional failure in low-risk clinical group (3a) and distant metastasis in high-risk clinical group (3b) according to engraftment

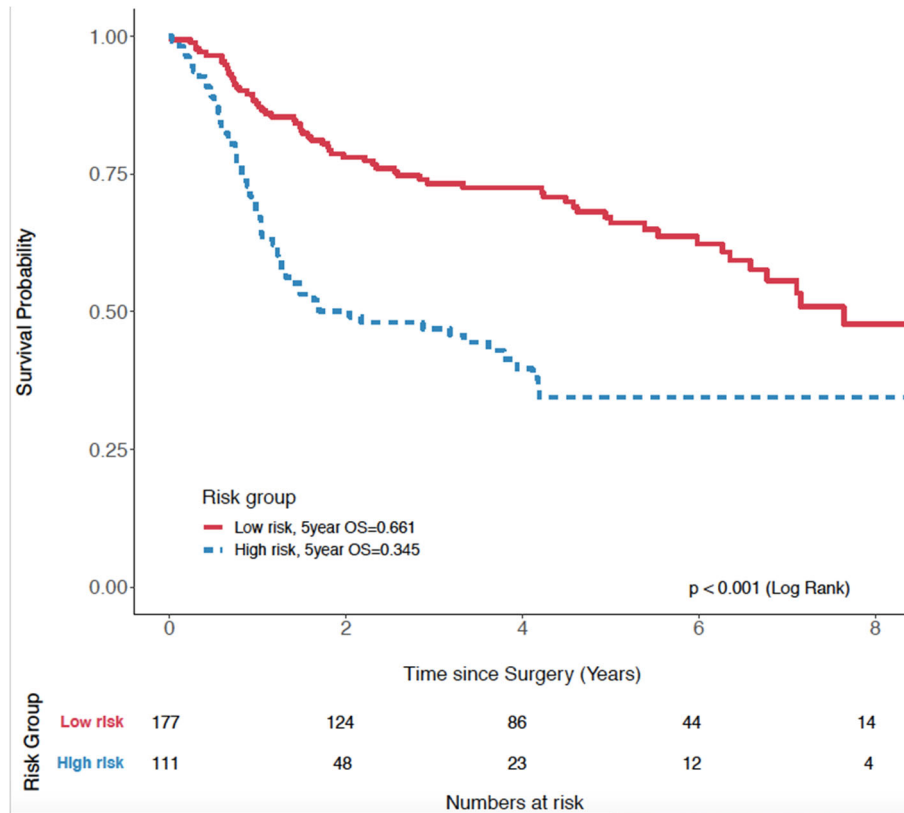
3a) Locoregional Failure in Clinical Low Risk Group



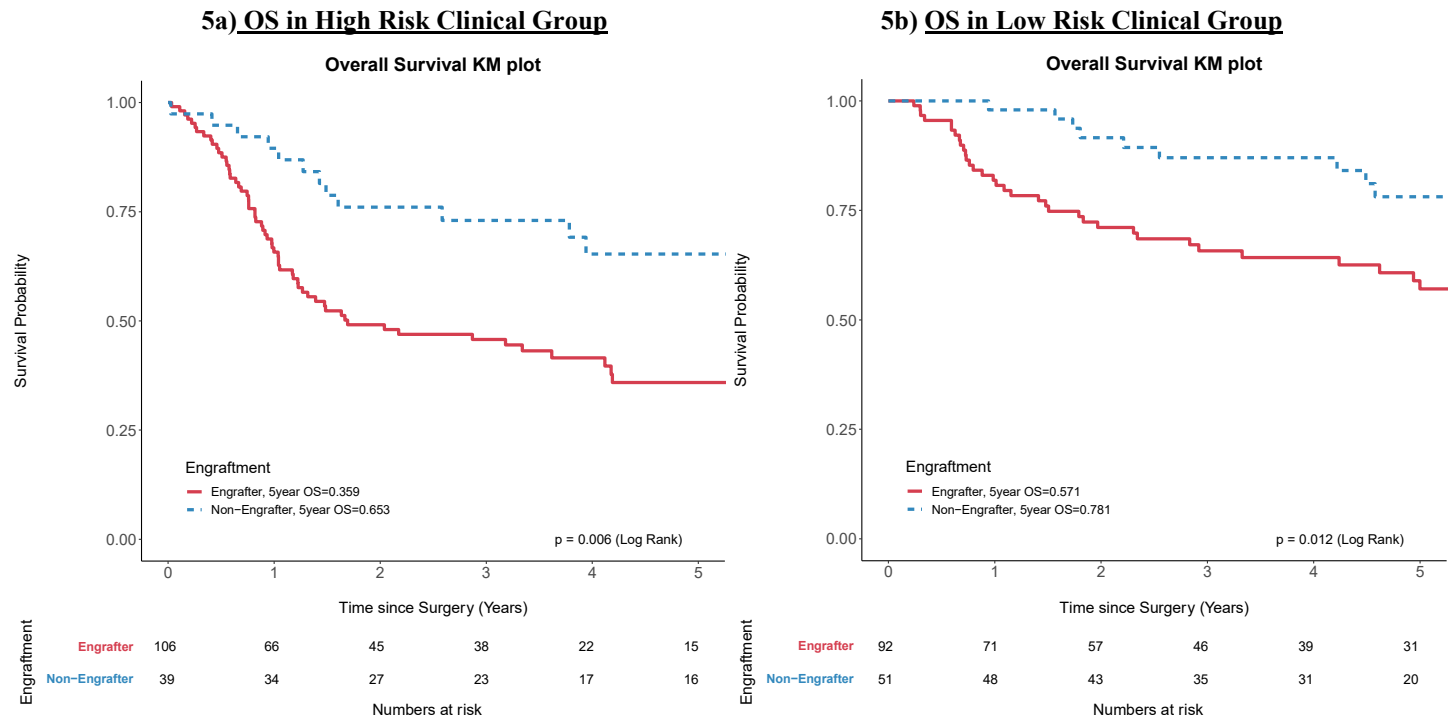
3b) Distant Metastasis in Clinical High Risk Group



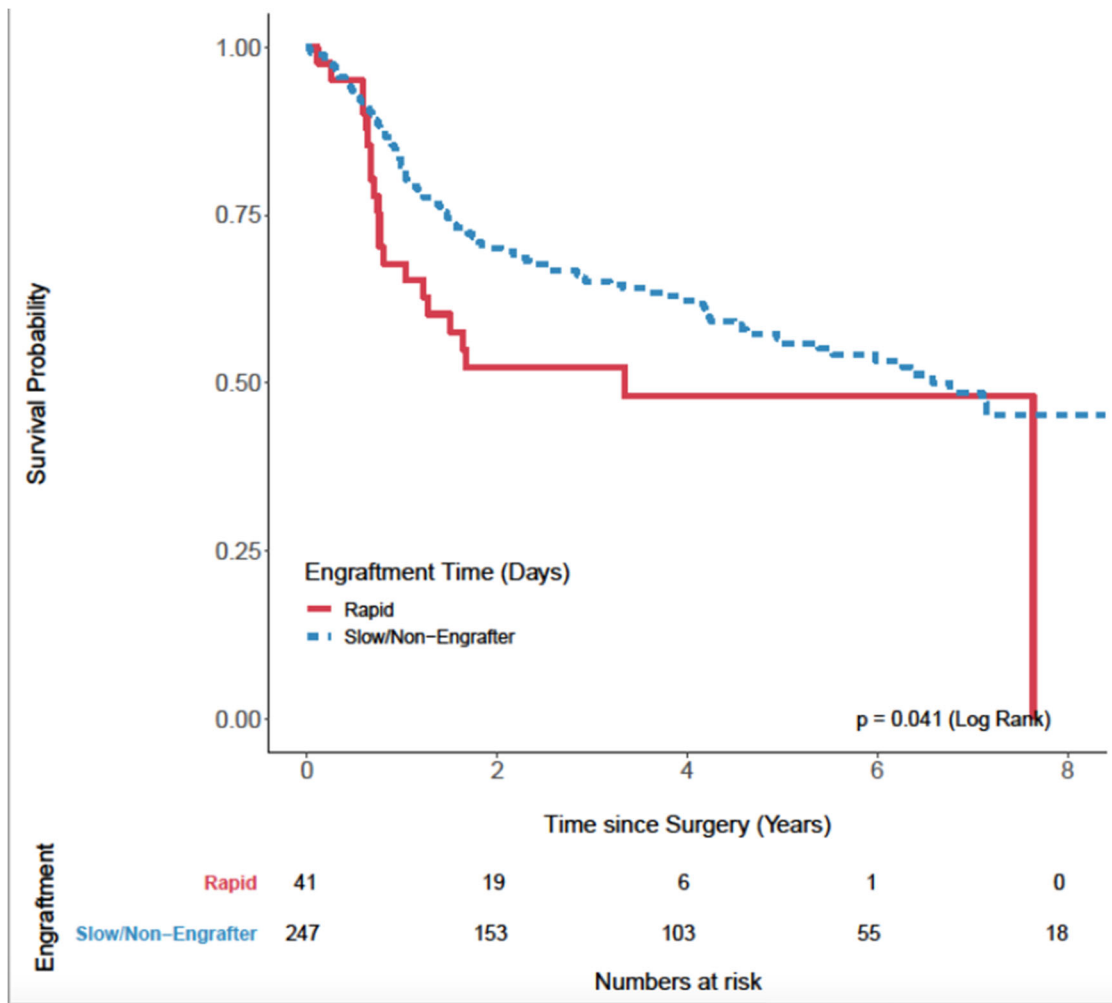
eFigure 4. Kaplan-Meier curve of overall survival in OSCC high- (n=111) vs low-risk groups (n=177)



eFigure 5. Kaplan-Meier curve of overall survival in high- (5a) and low-risk (5b) clinical groups according to engraftment

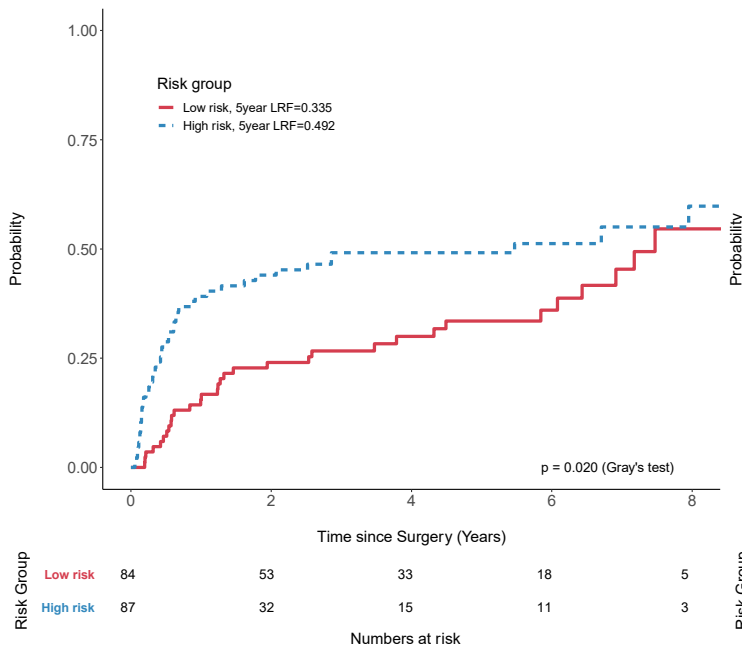


eFigure 6. Kaplan-Meier curve of overall survival in rapid (n=41) vs slow/non-engrafters (n=247)

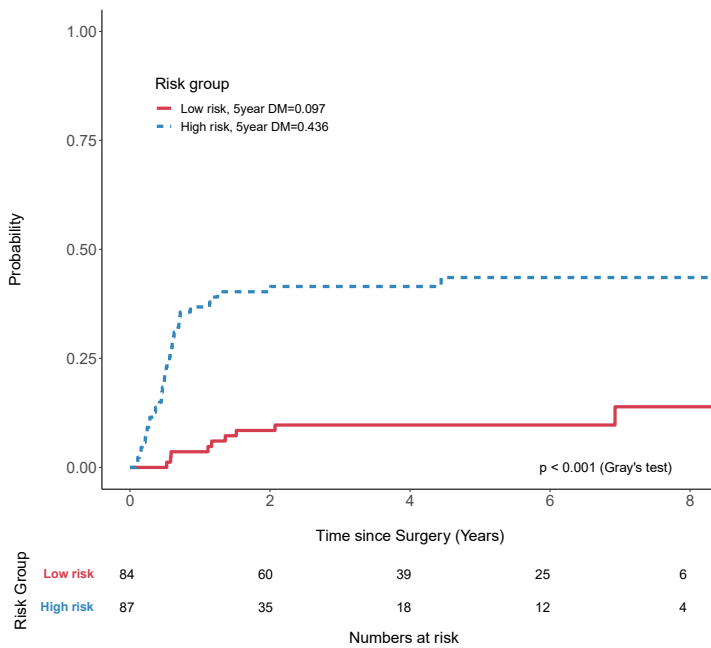


eFigure 7. Locoregional failure (7a), distant metastasis (7b) and overall survival (7c) in high- vs low- risk groups (PORT cohort)

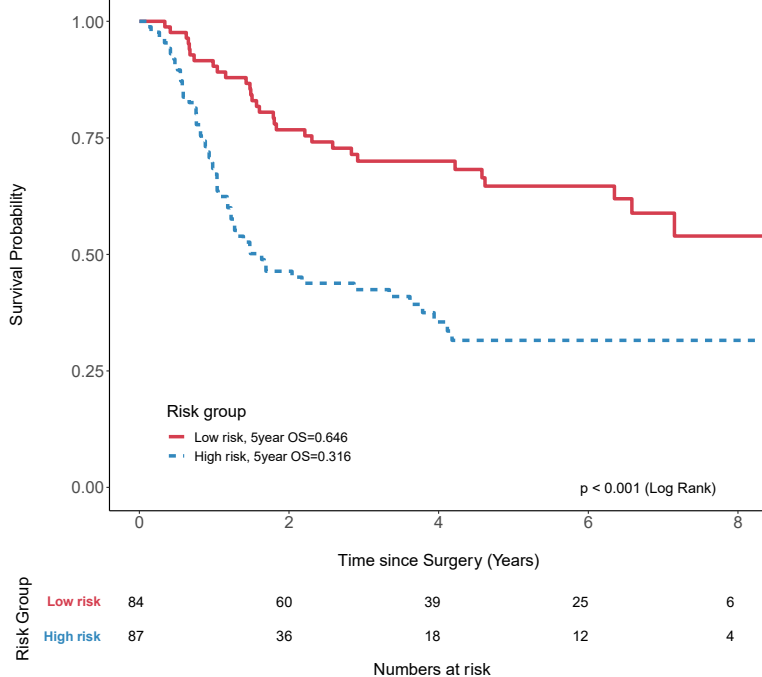
7a) Locoregional Failure in PORT subgroup



7b) Distant Metastasis in PORT subgroup



7c) OS in PORT subgroup



eFigure 8. Kaplan-Meier curve of LRF in engrafters and non-engrafting patients who did not receive PORT (T1-2 N0-1 with negative margins and no ENE)

