

Using a CLINICOPATHOLOGIC and GENE EXPRESSION PROFILE (CP-GEP) model to predict PROGNOSIS in STAGE I-II MELANOMA: a multicenter Danish cohort study

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AIM

To validate the performance of the CP-GEP model in predicting prognosis in stage I-II melanoma

BACKGROUND

STAGE I-II MELANOMA – A CLINICAL CHALLENGE¹⁻³

- Increasing incidence of melanoma
- >80% is stage I-II (without metastasis)
- Stage I-II present notable heterogenous survival outcomes – Depending on factors beyond stages?

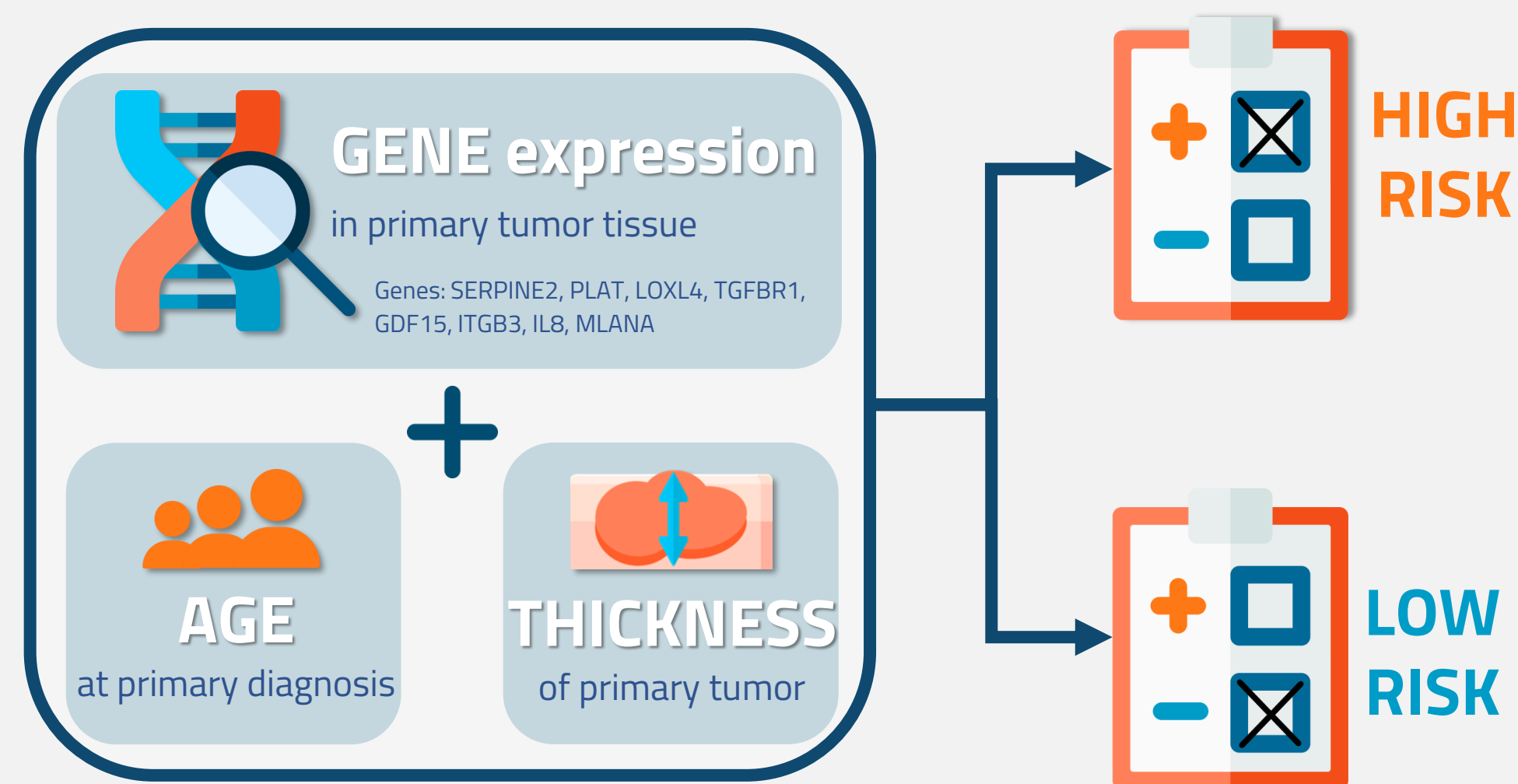
ADJUVANT IMMUNOTHERAPY - DILEMMA^{4,5}

- Improved RFS in stage II substages (phase III trial)
- Risk of severe adverse effects
- Potential financial strain on healthcare systems

REFINED risk stratification of stage I-II is NEEDED to TAILOR treatment and surveillance BUT HOW ?

The CP-GEP model

Developed and validated to PREDICT risk of SENTINEL NODE METASTASIS⁶⁻¹⁰



CAN CP-GEP PREDICT RISK OF RECURRENCE AND DEATH?

METHOD

Danish Multicentre cohort study
 Retrospective patient selection from two institutions

Inclusion criteria

- First-time invasive cutaneous melanoma (T1-T3)
- Age ≥18 yr
- SLNB ≤90 days from primary biopsy
- No additional metastasis ≤90 days from primary biopsy
- Full histopathological report available
- ≥ 5 yr follow up

Stage I-II Melanoma



Negative SLNB 2010-2015

Primary tumor tissue



Collection of tumor tissue from the biobank 2020

CP-GEP



Performed by SkylineDx, Netherlands 2022

End of follow-up*



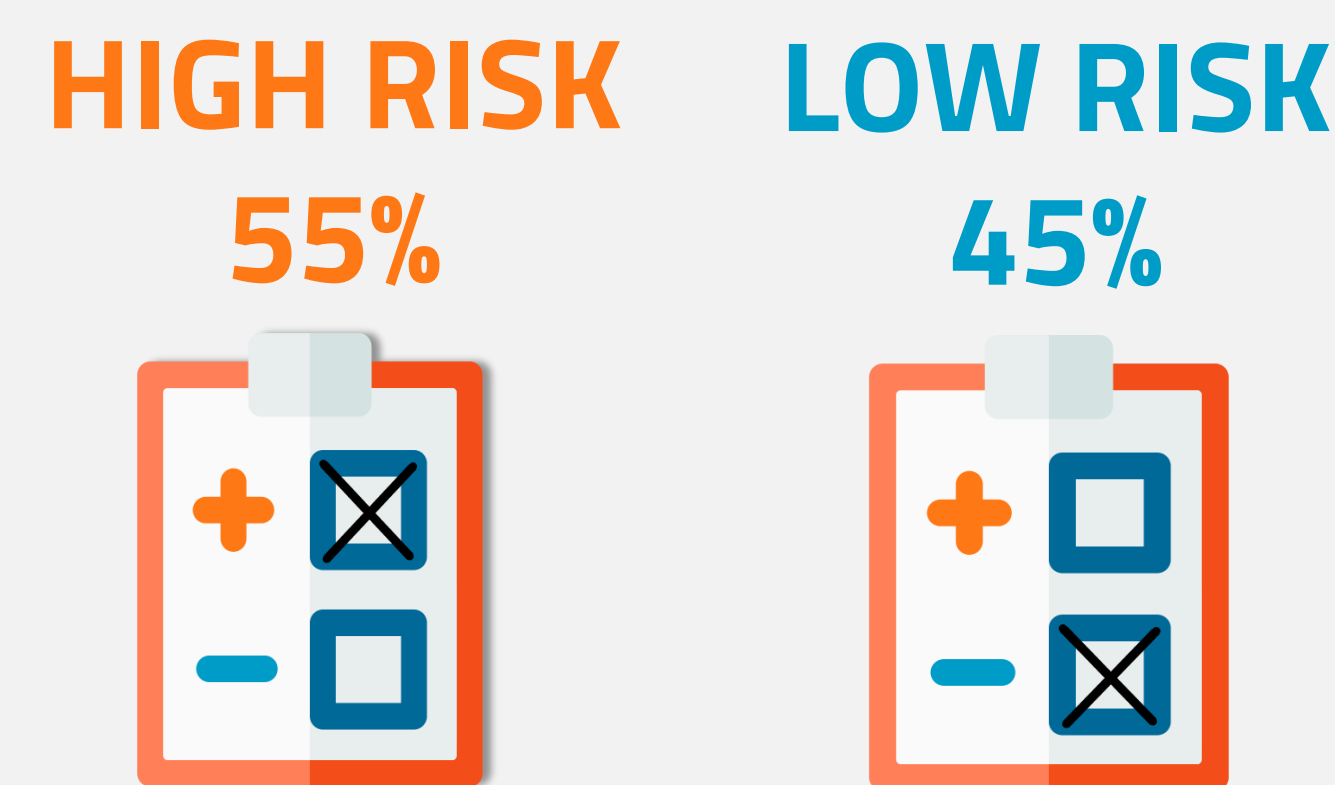
Jun 2023

SkylineDx blinded to SLNB and follow-up data!

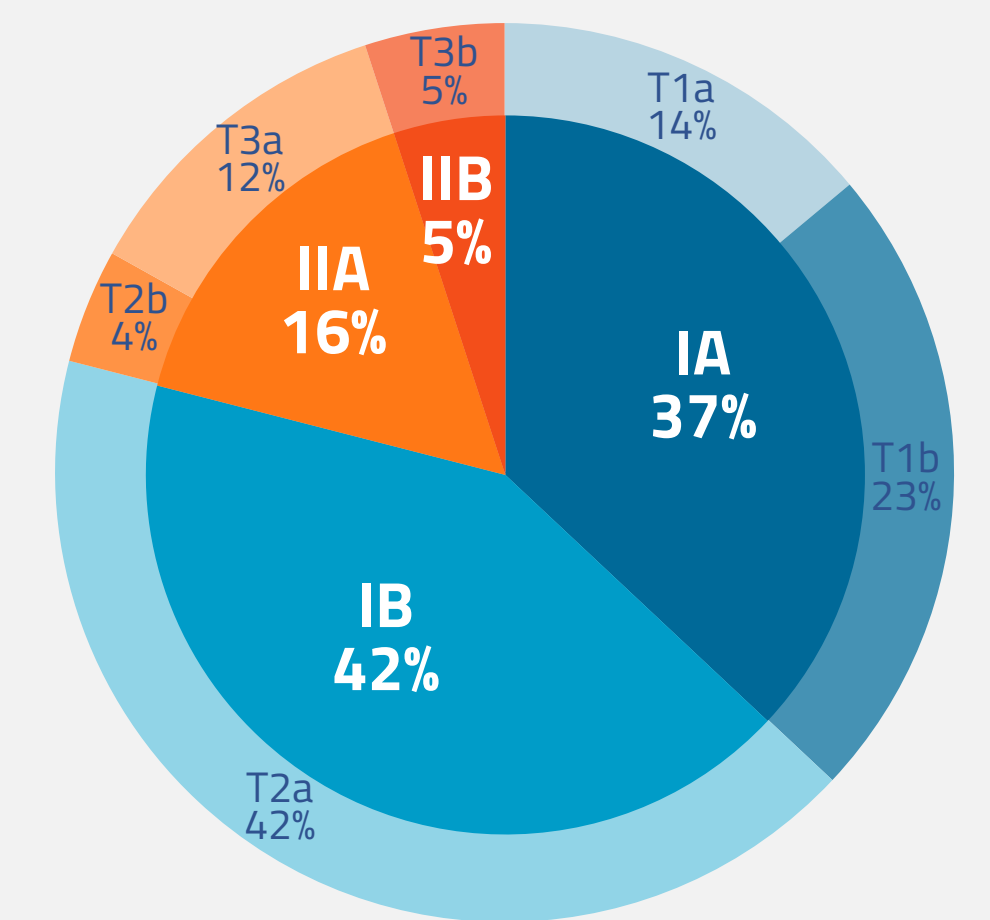
Total cohort N=438

*Follow-up data obtained from the Danish Melanoma Database and national health registries. The National Cause of Death Register updated until Dec 2022; MSS follow-up therefore ends on this date.

RESULTS

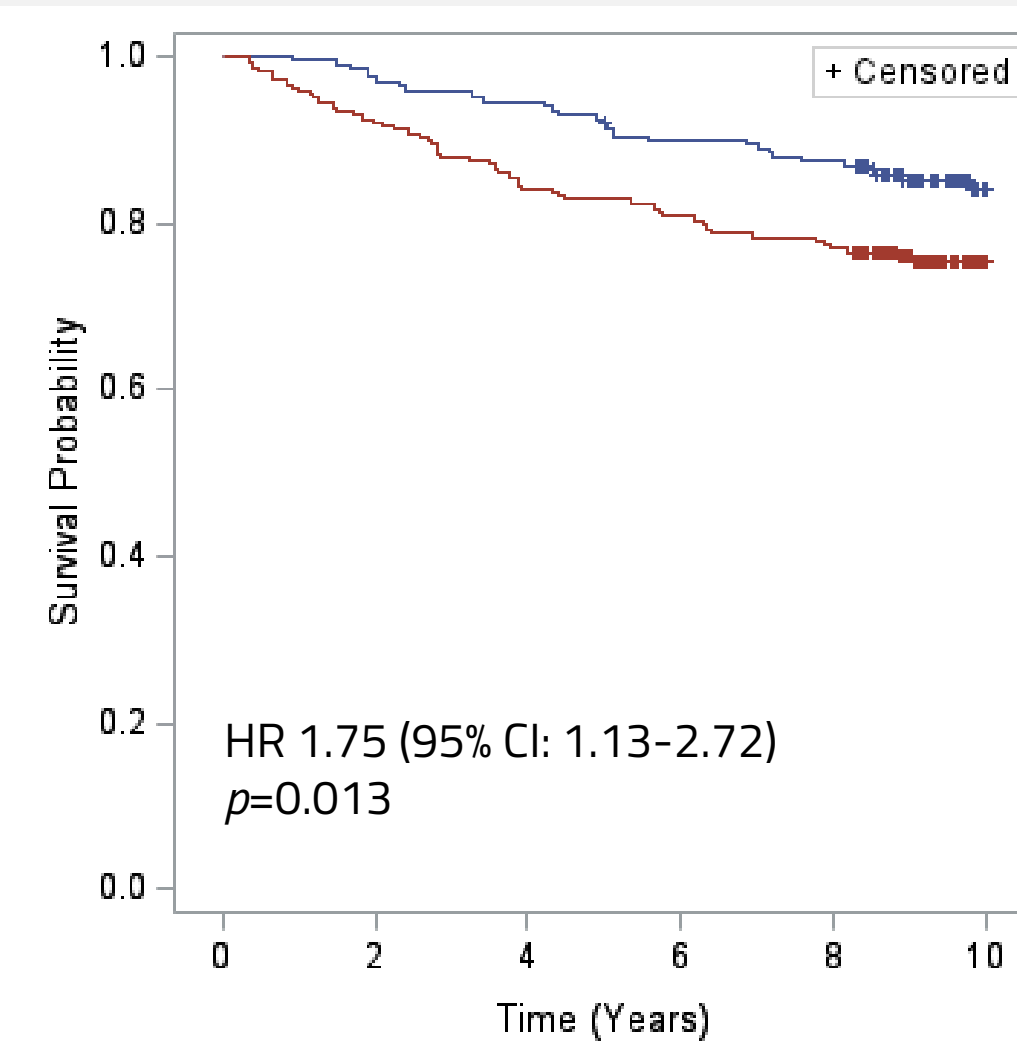


Box 3 CP-GEP stratification of the total cohort



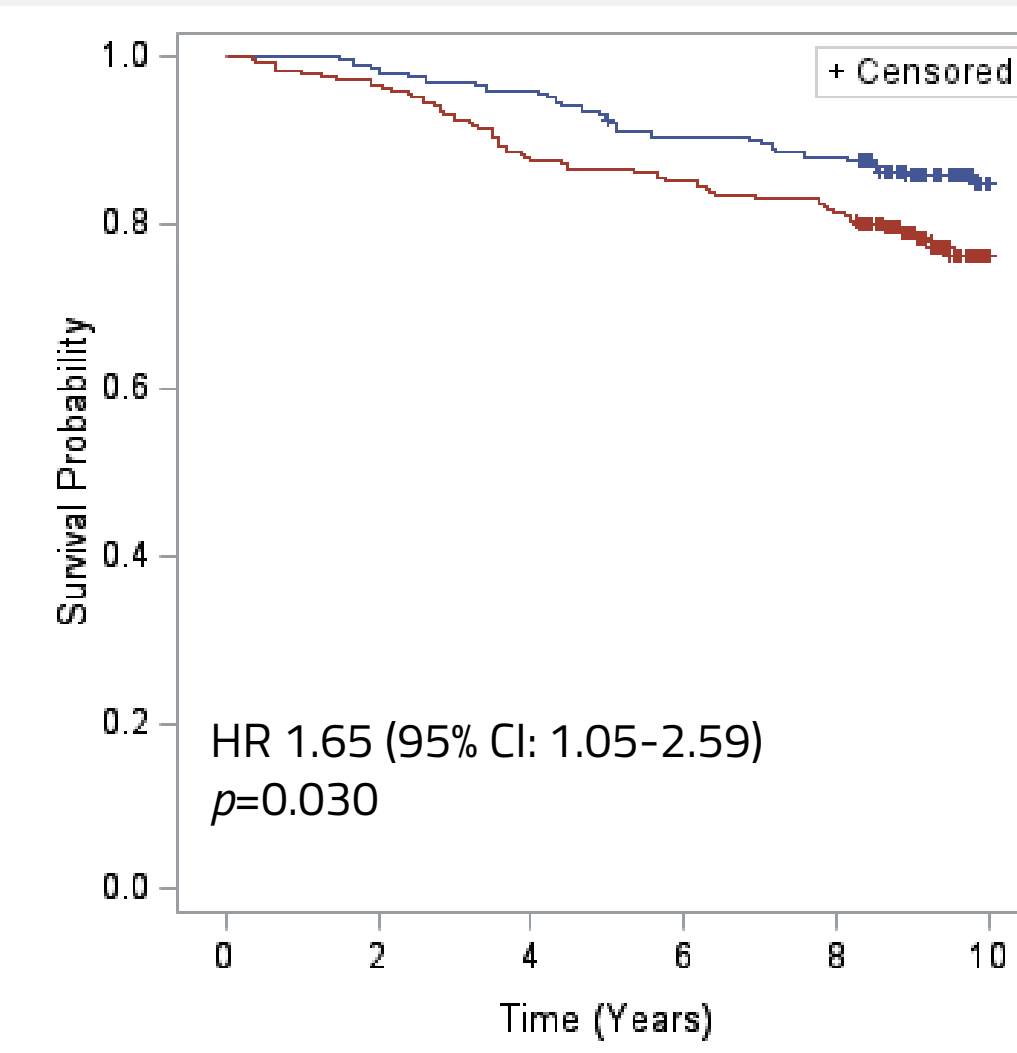
Box 2 AJCC8 pathological stages and T-stages for the total cohort

RFS



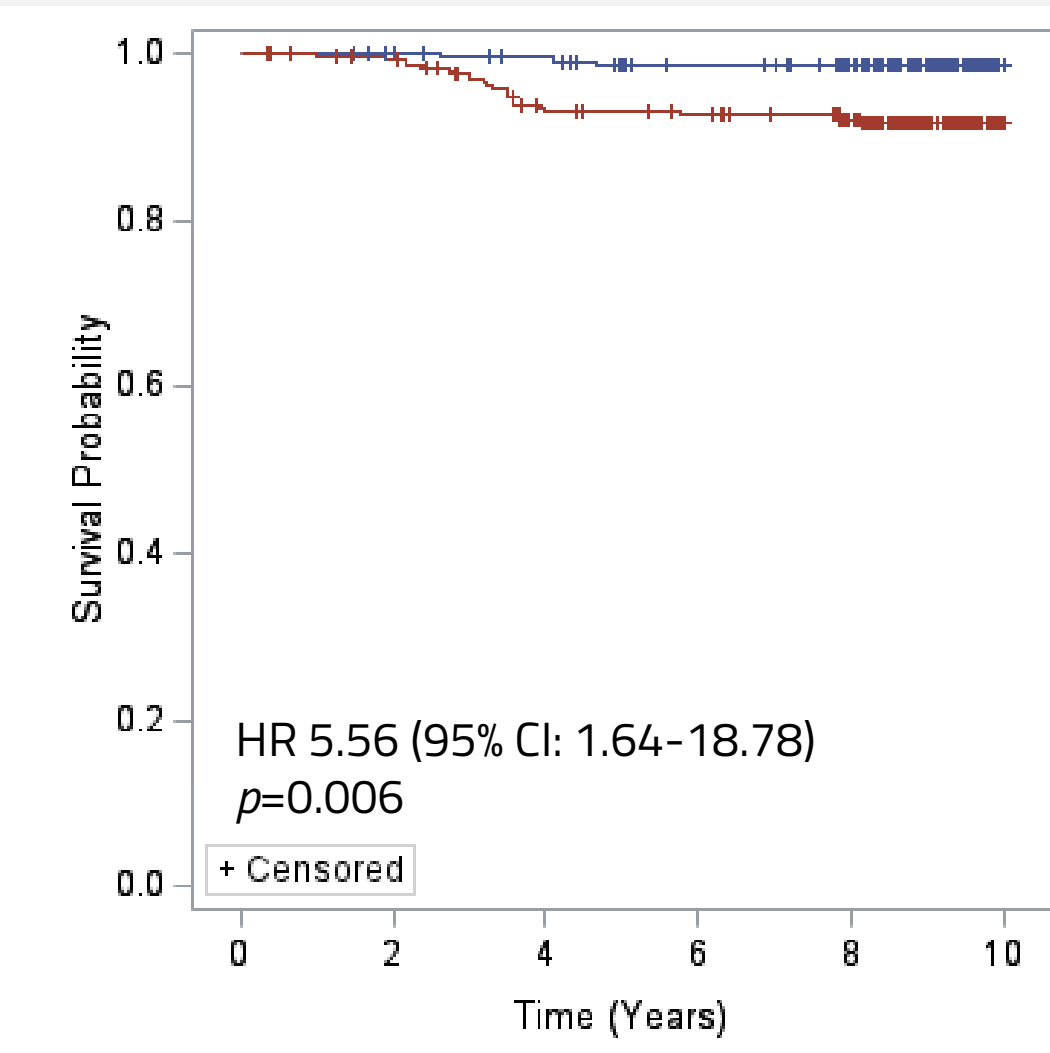
Low-risk: 199 199 194 191 188 183 178 177 173 124 86
 High-risk: 239 230 220 210 201 198 163 187 184 130 64

OS



Low-risk: 199 199 196 193 191 184 179 174 125 89
 High-risk: 239 234 231 221 209 207 203 198 194 135 66

MSS



Low-risk: 199 199 198 193 191 184 179 178 157 100 37
 High-risk: 239 234 231 221 209 207 203 198 177 91 39

	RFS		OS		MSS							
	5-year	10-year	5-year	10-year	5-year	10-year						
	%	(95% CI)	%	(95% CI)	%	(95% CI)						
Total (N=438)	87	(84-90)	79	(75-83)	89	(86-92)	80	(76-84)	96	(93-97)	95	(92-97)
CP-GEP High (N=239)	83	(77-87)	75	(69-81)	87	(82-90)	76	(70-81)	93	(89-96)	92	(87-95)
CP-GEP Low (N=199)	92	(87-95)	84	(78-89)	93	(88-95)	85	(79-89)	98	(95-100)	98	(95-100)

Box 3 Kaplan-Meier curves, Hazard ratios and 5-year and 10-year RFS, OS and MSS at a median follow-up of 115 months, stratified by CP-GEP result (High or Low risk).

CONCLUSION



The CP-GEP model is able to **RISK STRATIFY STAGE I-II MELANOMA**



CONSISTENT with findings in previous **VALIDATION STUDIES**

The CP-GEP model is a **PROMISING** tool for **GUIDING** treatment **DECISIONS** and surveillance strategies in **STAGE I-II MELANOMA**

Need for further validation incl. comparison to similar tools, prospective validation and cost-benefit analyses

TO BE CONTINUED...

