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# **MEETING SUMMARY**

**EASL 2017, AMSTERDAM, THE NETHERLANDS  
APRIL 19<sup>TH</sup> TO 23<sup>RD</sup> 2017**

**DR CATHERINE FRENETTE**

**MEDICAL DIRECTOR OF LIVER TRANSPLANT  
DIRECTOR HEPATOCELLULAR CARCINOMA PROGRAM  
SCRIPPS GREEN HOSPITAL, LA JOLLA, CA, USA**

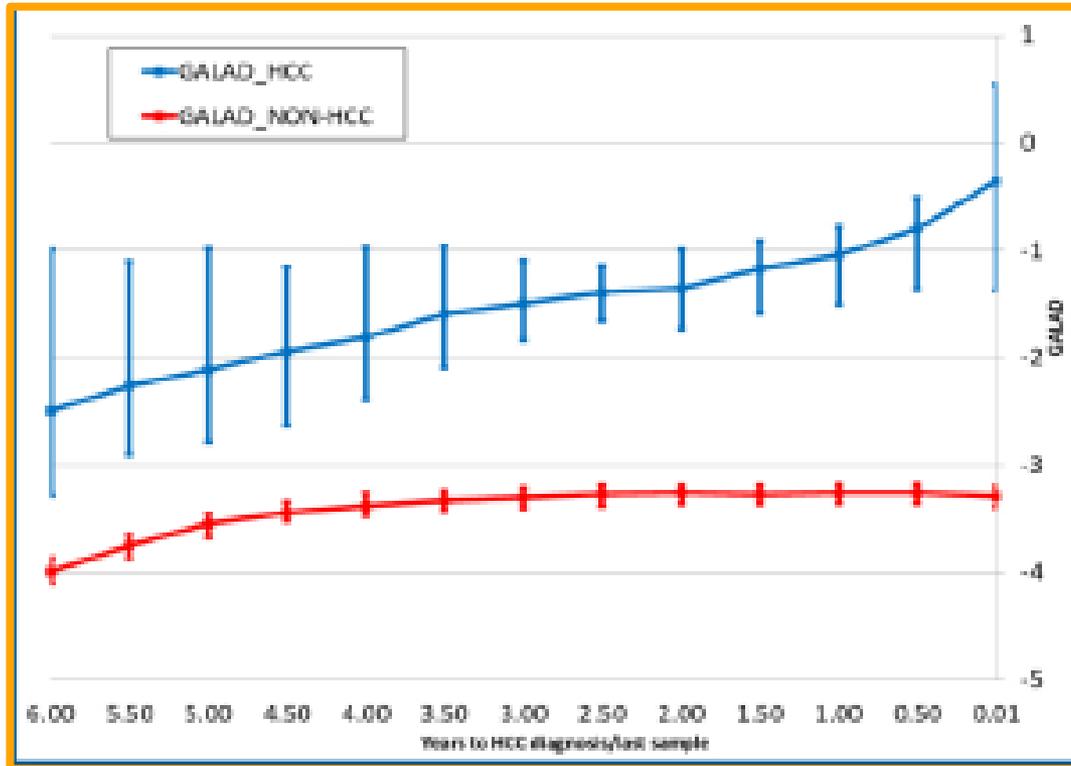
**PATIENT STRATIFICATION AND MULTI  
DISCIPLINARY APPROACH FOR PATIENTS  
WITH HEPATOCELLULAR CARCINOMA (HCC)**

**SERIAL CHANGES IN SERUM BIOMARKERS  
(GALAD MODEL) PRIOR TO DETECTION OF  
HCC BY ULTRASOUND SURVEILLANCE;  
APPLICATION OF STATISTICAL PROCESS  
CONTROL METHODOLOGY**

Berhane et al.



# GALAD SCORE TREND UNTIL DATE OF DIAGNOSIS OR LAST SAMPLE FOR THE HCC AND NON-HCC GROUPS



- Note that the GALAD score
- Is higher in the HCC group
  - Remained largely unchanged in the non-HCC group
  - By comparison, there was a steady rise in the GALAD score in the HCC group

# GALAD SCORE

**Gender:**  Female  
 Male

**Age:**  years

**AFP:**  ng/mL

**AFP-L3%:**  %

**DCP:**  ng/mL

**Results**

GALAD Score  
**2.68**

Probability of HCC  
**94%**

This probability estimate is dependent on the prevalence of the disease (HCC) within the specific population.

The GALAD model was developed in a cohort where 49% of the population had HCC.

According to Mayo Clinic internal data, a GALAD score of 1.17 is a cutoff providing 98% specificity and 63% sensitivity.

$$Z = -10.08 + 1.67 \times [\text{Gender/Sex}] + 0.09 \times [\text{Age}] + 0.04 \times [\text{AFP-L3}] + 2.34 \times \log[\text{AFP}] + 1.33 \times \log[\text{DCP}]$$

**Sex = 1 (Males) or 0 (Females)**

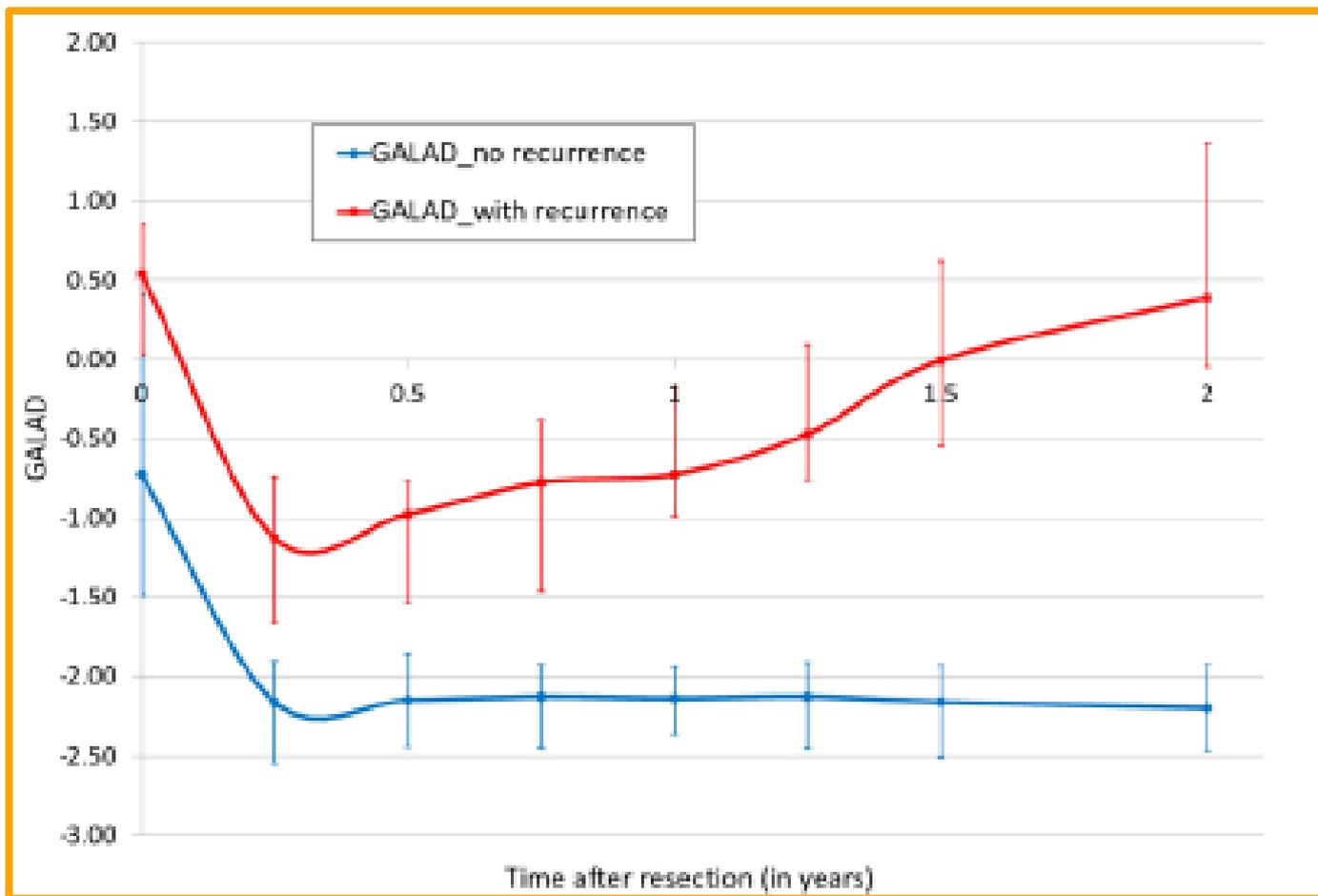
<http://www.mayoclinic.org/medical-professionals/model-end-stage-liver-disease>

# SERUM BIOMARKER ('GALAD') RESPONSE AFTER RESECTION OF HCC: IMPACT ON TUMOUR RECURRENCE

Johnson et al.



# GALAD SCORE WAS SIGNIFICANTLY DIFFERENT IN THE 2 GROUPS AT 9 MONTHS (P<0.0001)



**RELATIONSHIP BETWEEN OVERALL SURVIVAL  
AND TIME TO PROGRESSION AFTER  
TRANSARTERIAL CHEMOEMBOLIZATION  
THERAPY IN PATIENTS WITH HCC**

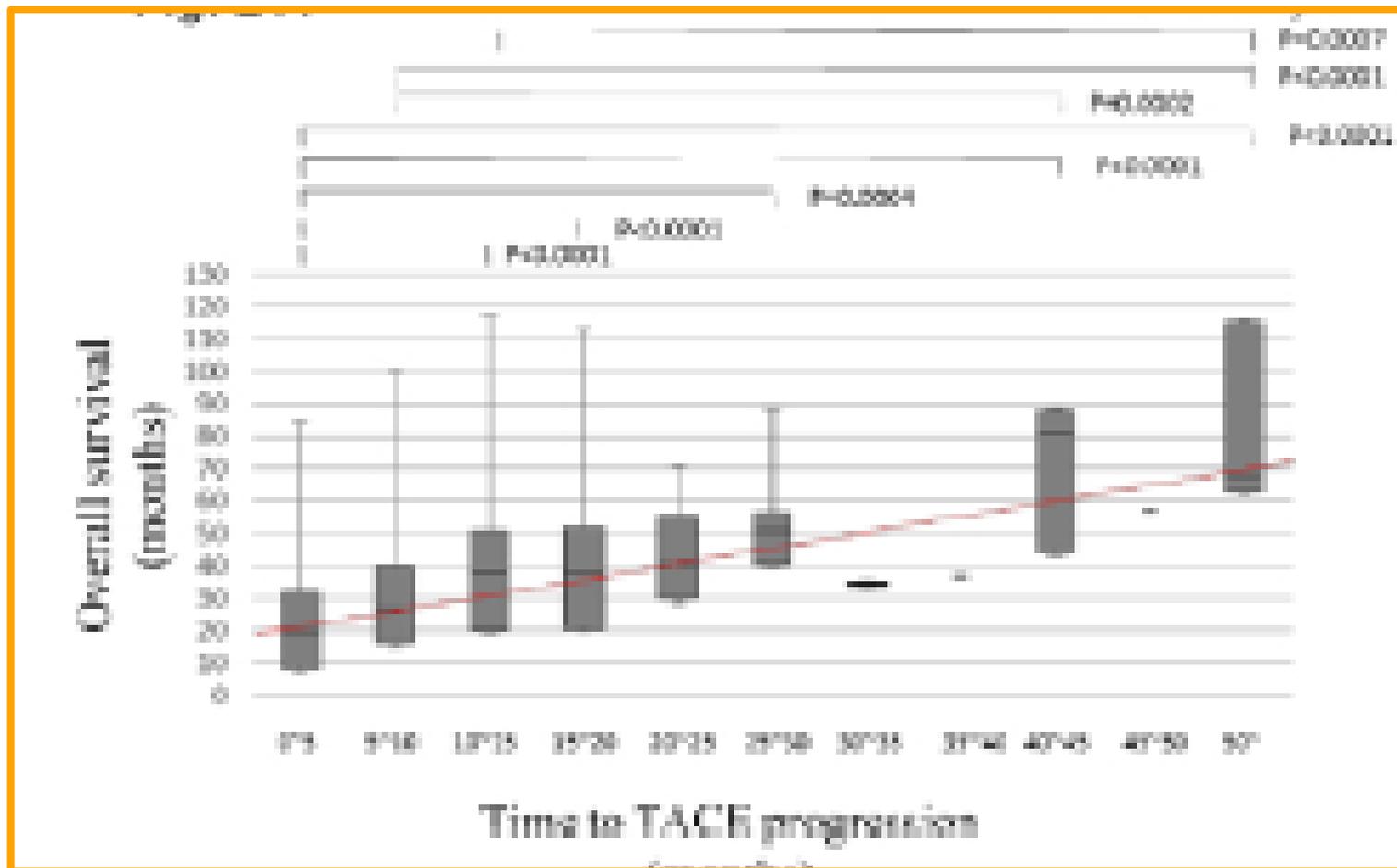
Arizumi et al.



# RELATIONSHIP BETWEEN TTTP AND OS IN PATIENTS WITH B1 AND B2 SUB-STAGE HCC

TTTP Range (months)	N=288	Median OS (95% CI)	25 <sup>th</sup> – 75 <sup>th</sup> percentile of OS
0-5	115	19.4 months (0.4-84.5)	8.1-32.2
5-10	69	26.7 months (5.6-100.4)	16.3-40.0
10-15	47	37.7 months (8.0-116.9)	19.9-50.5
15-20	26	38.4 months (15.2-113.4)	20.5-51.6
20-25	10	40.2 months (22.4-71.1)	19.6-55.3
25-30	6	50.6 months (25.3-88.4)	40.4-56.2
30-35	3	34.7 months (33.4-35.3)	34.1-35.0
35-40	1	37.4 months (37.4-37.4)	37.4-37.4
40-45	5	81.4 months (44.0-88.8)	44.1-88.2
45-50	1	57.5 months (57.5-57.5)	57.5-57.5
>50	5	68.2 months (55.6-115.7)	63.2-115.1

# TIME TO TACE PROGRESSION VS OVERALL SURVIVAL



# ANALYSIS OF POST PROGRESSION SURVIVAL OF PATIENTS WITH ADVANCED HCC TREATED WITH SORAFENIB

Wada et al.

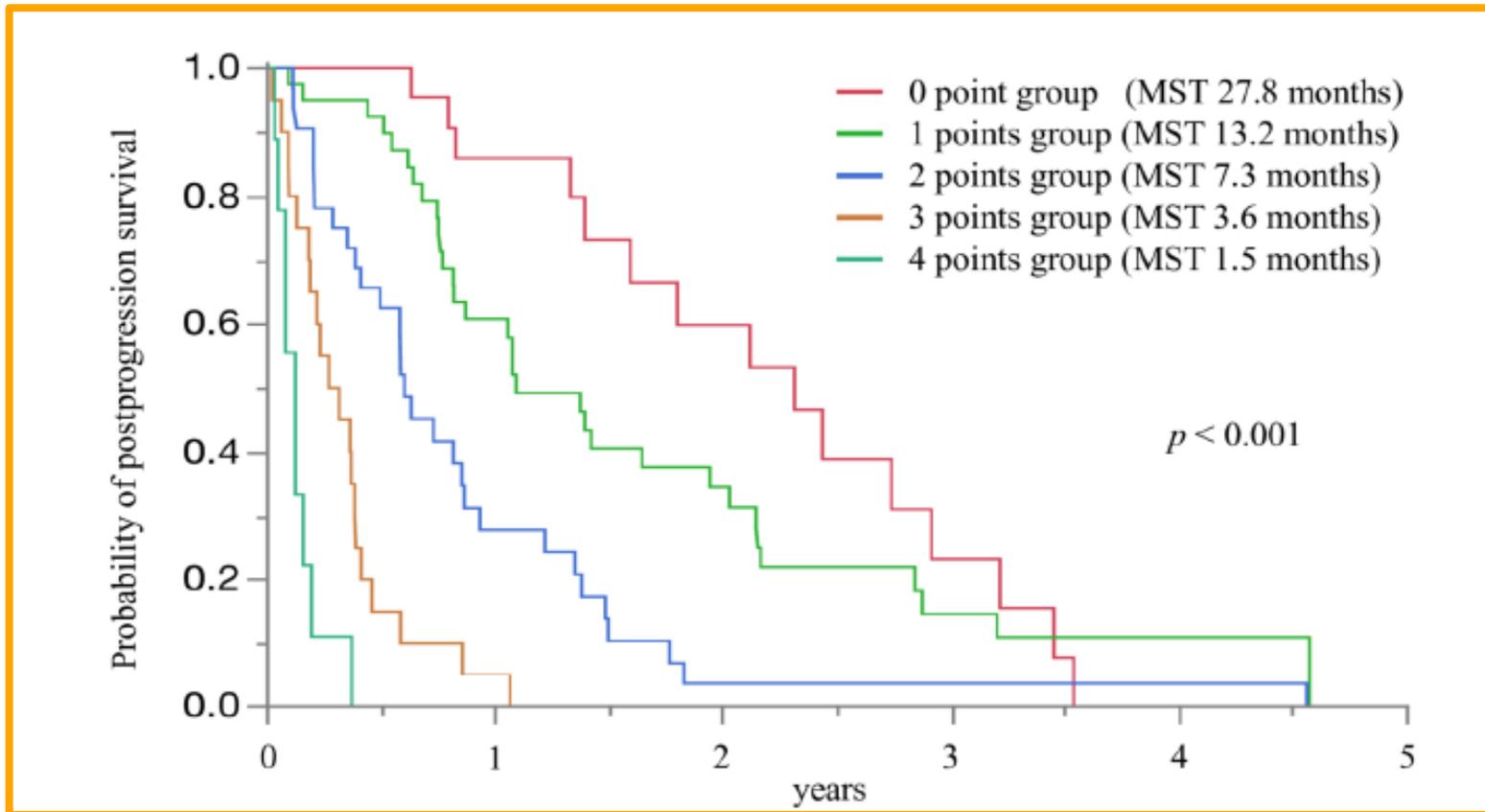
# CHANGE OF CLINICAL PARAMETERS AT THE TIME OF CONFIRMATION OF RADIOLOGIC PROGRESSIVE DISEASE COMPARED WITH THOSE OF THE INITIATION OF SORAFENIB TREATMENT

		At the confirmation of radiologic PD
Impairment of PS score	+1	46 (35.9%)
	$\geq+2$	14 (10.9%)
Impairment of Child-Pugh score	+1	27 (21.1%)
	$\geq+2$	26 (20.3%)
Time to progression	$\geq 3$ months	60 (46.9%)
Radiologic Progression Pattern	Target Lesion Growth	63 (49.2%)
	New Lesion	19 (14.8%)
	Target Lesion Growth and New Lesion	46 (35.9%)

# PREDICTIVE FACTORS FOR POST PROGRESSION SURVIVAL

Variable		Univariate		Multivariate	
		HR (95% CI)	P value	HR (95% CI)	P value
Age	≥75	1.11 (0.72-1.66)	0.64		
Sex	Male	1.07 (0.67-1.79)	0.79		
Impairment of PS	≥+1 point	2.14 (1.45-3.17)	<0.001	1.90 (1.21-2.97)	<0.01
	≥+2 points	8.54 (4.31-16.12)	<0.001	2.32 (1.03-5.15)	0.04
Child-Pugh at radiologic PD	≥8	3.91 (2.33-6.31)	<0.001	1.24 (0.52-3.15)	0.64
Impairment of Child-Pugh score	≥+1 point	2.21 (1.48-3.28)	<0.001	1.28 (0.73-2.16)	0.37
	≥+2 points	4.82 (2.93-7.68)	<0.001	2.73 (1.31-5.66)	<0.01
Extrahepatic spread	Yes	1.40 (0.94-2.08)	0.15		
Macrovascular invasion	Yes	2.01 (1.25-3.13)	0.03	1.68 (0.61-1.82)	0.82
Radiological Progression Pattern	Target growth + new lesion	3.21 (2.09-4.91)	<0.001	3.02 (1.88-4.86)	<0.001
Time to progression (TTP)	<3 months	2.25 (1.52-3.35)	<0.001	2.06 (1.88-4.86)	<0.001

# POST PROGRESSION SURVIVAL STRATIFIED BY PREDICTIVE SCORES



Predictive scores were assigned one point each to impairment of PS score ( $\geq 1$ ), impairment of Child-Pugh score ( $\geq 2$ ), TTP ( $< 3$  months) and radiological progression pattern (target lesion growth and new lesion)

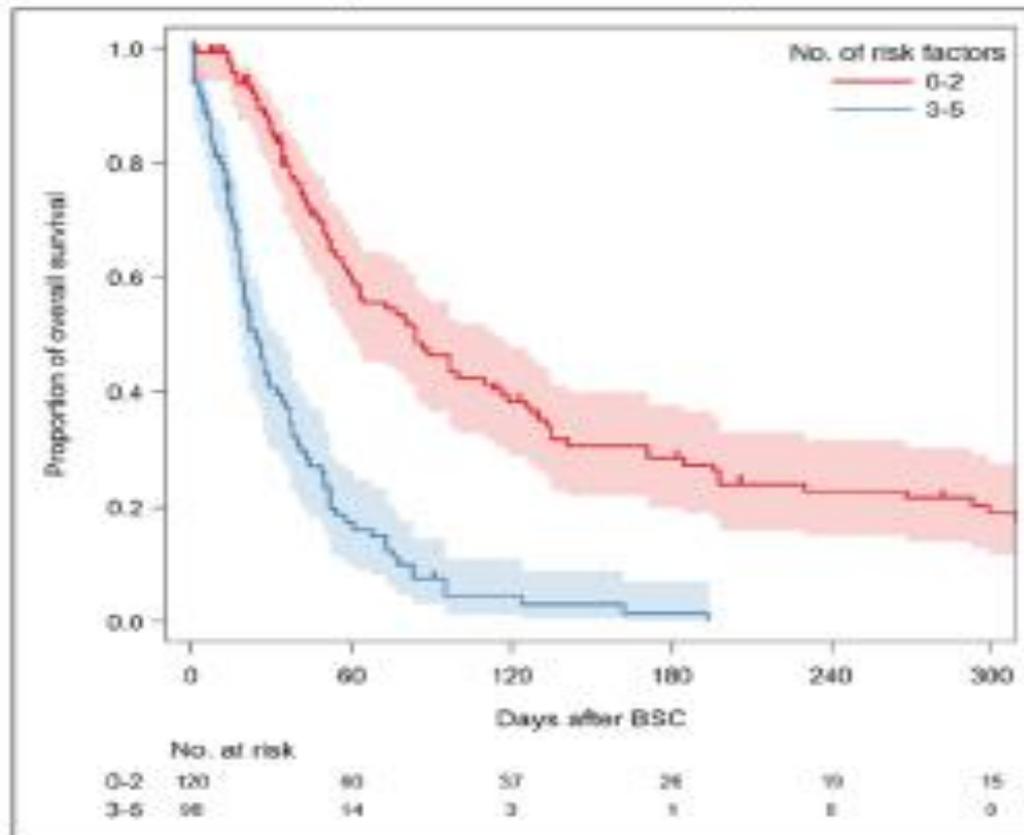
# IMPACT OF SURVIVAL AFTER MOVING ONTO END-OF-LIFE CARE IN PATIENTS WITH HCC

Ogasawara et al.

# IMPACT OF SURVIVAL FOR MOVING ONTO END-OF-LIFE CARE IN PATIENTS WITH HCC

Variables	Hazard ratio	95% CI	P
<b>Child-Pugh classification</b>			
A or B	Reference		
C	1.840	1.352-2.505	<0.001
<b>Liver tumor burden</b>			
≤50%	Reference		
>50%	1.912	1.362-2.664	<0.001
<b>AFP</b>			
≤400 ng/ml	Reference		
>400 ng/ml	1.685	1.237-2.296	<0.001
<b>ECOG-PS</b>			
<3	Reference		
≥3	3.037	2.161-4.269	<0.001
<b>Sarcopenia</b>			
Absent	Reference		
Present	2.973	1.651-5.351	<0.001

# SURVIVAL AFTER MOVING ONTO END-OF-LIFE CARE ACCORDING TO SCORES BASED ON THE PROGNOSTIC FACTORS IN PATIENTS WITH HCC





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