

SURVIVAL ANALYSIS OF PATIENTS WITH HEPATOCELLULAR CARCINOMA : IMPLICATIONS OF PATIENT CHARACTERISTICS AND MODE OF TREATMENT

Arl Ann S. Mendoza-Manzo, PM Villareal, RE Carpio, MM Chan, CD Dalupang,
AE Ismael, JD Sollano, SN Wong
University of Santo Tomas Hospital
España, Manila, Philippines

- Lack of implementation of surveillance protocols for HCC resulted in a high proportion of patients presenting in the intermediate to advanced stage

- Andrada, et al. Impact of Surveillance on the Clinical Characteristics and Staging of Hepatocellular Carcinoma. Abstract. Single topic conference APASL 2008 Bali, Indonesia

- Different treatment modalities for HCC has significantly improved patients' quality of life
 - SURGERY
 - PERCUTANEOUS ABLATIVE THERAPIES
 - TRANSARTERIAL CHEMOEMBOLIZATION
 - SYSTEMIC CHEMOTHERAPY

- **OVERALL SURVIVAL**
 - Significantly improved by **TREATMENT MODALITIES**
- Disease stage, patient factors and tumor characteristics important in determining **PROGNOSIS** and **TREATMENT** response

Peck-Radosavljevic M. Hepatocellular carcinoma: the place of new medical therapies. *Therap Adv Gastroenterol* Jul 2010; 3(4): 259-267.

Lencioni R, Chen XP, Dagher L, Venook AP. Treatment of intermediate/advanced hepatocellular carcinoma in the clinic: how can outcomes be improved? *Oncologist* 2010; 15 Suppl 4: 42-52.

Objectives of the Study

- *To compare the survival rates of HCC patients according to the different modes of treatment.*
- *To identify patient and tumor characteristics influencing survival in patients with HCC.*

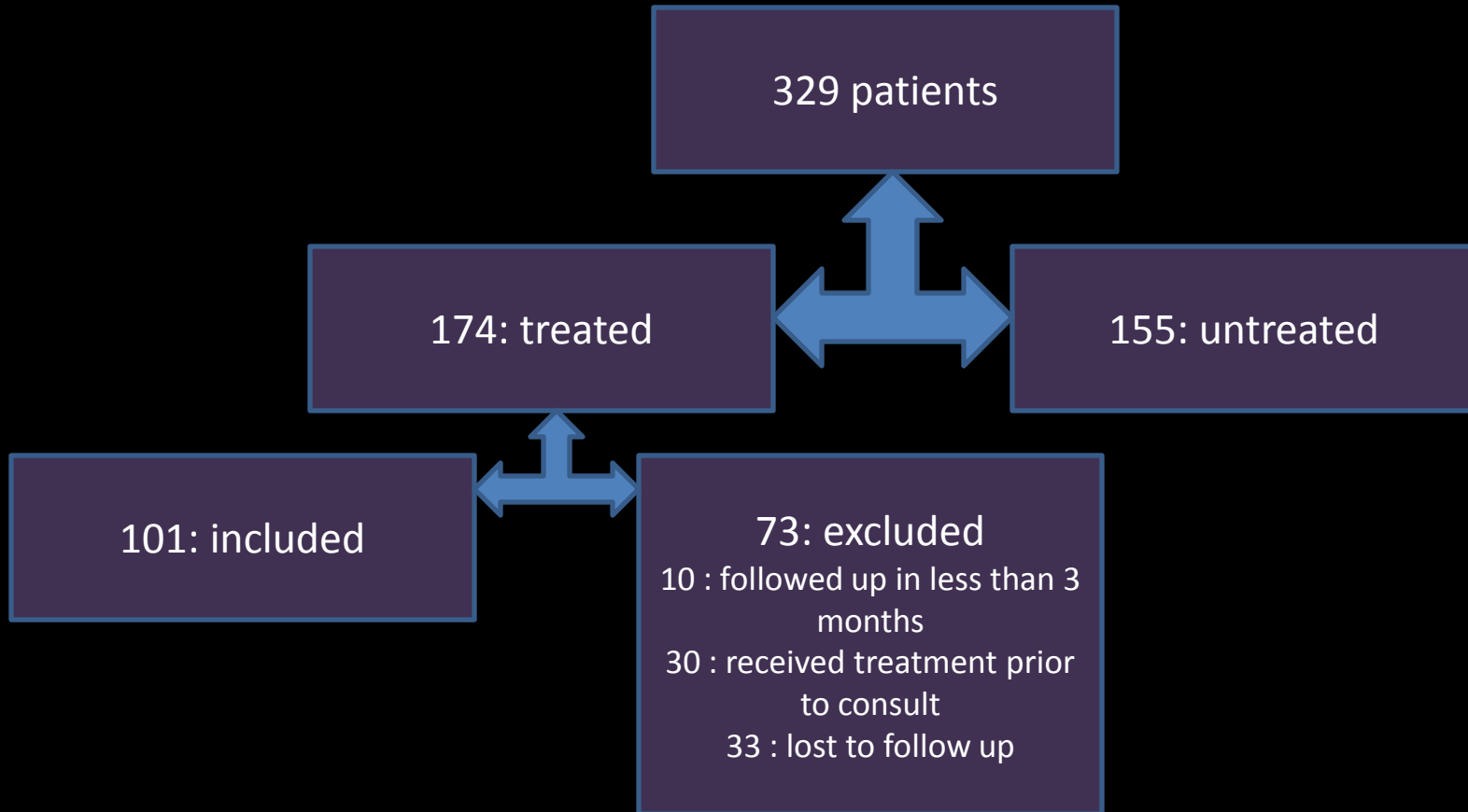
Inclusion Criteria

- Patients diagnosed with HCC based on AASLD criteria:
 - Typical vascular pattern on two dynamic imaging for tumors 1-2cm in size
 - Typical vascular pattern on one dynamic imaging for tumors > 2cm in size
 - Alpha fetoprotein >200 ng/mL
- Patients who underwent treatment:
 - Radiofrequency ablation
 - Transarterial Chemoembolization
 - Other modalities: Percutaneous Ethanol Injection, Systemic Chemotherapy, Light Infusion Therapy, Hepatic Resection
- Patients who had adequate follow-up:
 - Three months from initial diagnosis and treatment

Exclusion Criteria

- Patients who had previous treatment before consult at our institution
- Patients who had inadequate or were lost to follow-up

Methodology



Methodology

101 included



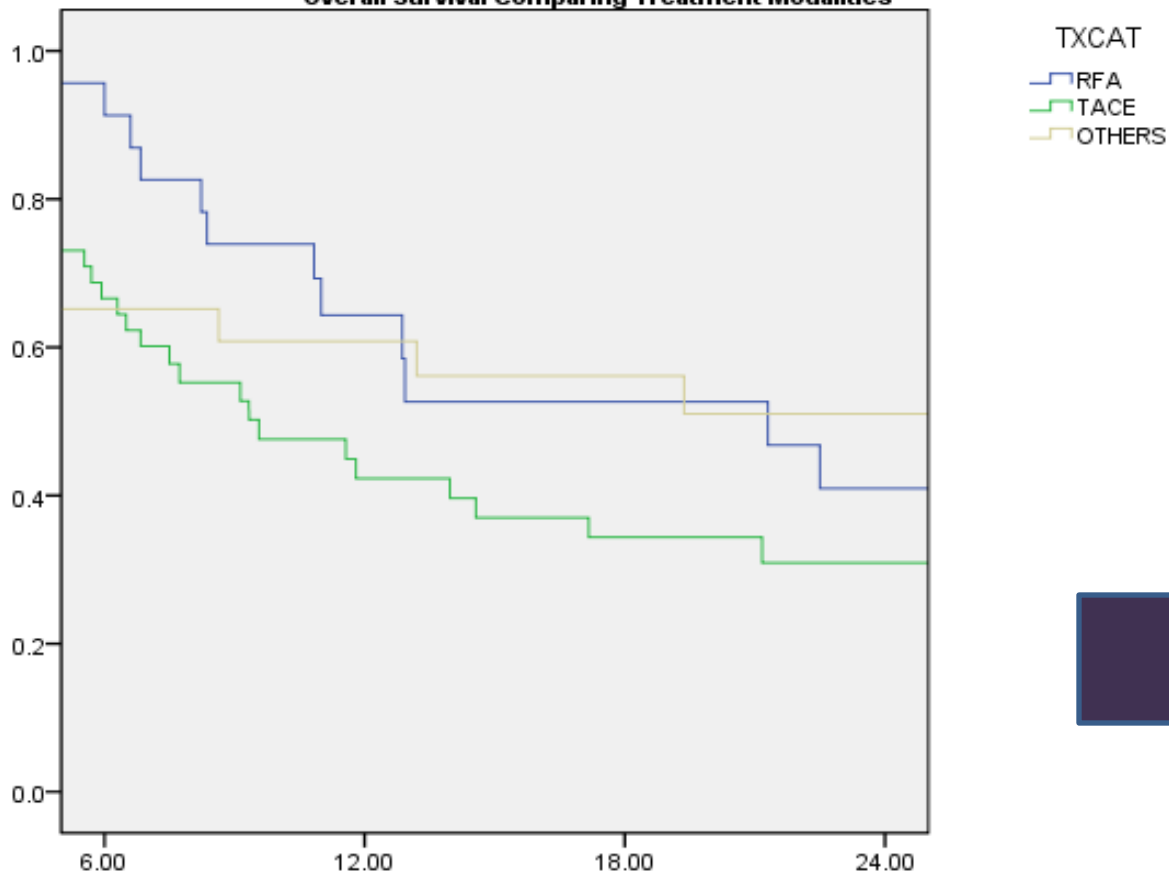
AGE
SEX
PRESENCE OF CIRRHOSIS
ETIOLOGY OF LIVER DISEASE
PRESENTING SYMPTOM
SIZE OF TUMOR
NUMBER OF TUMORS
ALPHA FETOPROTEIN
PORTAL VEIN THROMBOSIS
EXTRAHEPATIC METASTASIS
CHILD TURCOTTE PUGH SCORE
ECOG PERFORMANCE STATUS
BCLC STAGE

	RFA N=26(%)	TACE N= 49(%)	OTHER MODALITIES N=26(%)	OVERALL TOTAL N=101(%)	P value
Sex:					0.211
Male	23 (88%)	39 (80%)	17 (65%)	79 (78%)	
Female	3 (12%)	10 (20%)	9 (35%)	22 (22%)	
Etiology:					0.497
Hepatitis	12 (46%)	28 (57%)	16 (62%)	56 (55%)	
Alcohol	11 (42%)	12 (24%)	6 (23%)	29 (29%)	
NASH/Cryptogenic	3 (12%)	9 (18%)	4 (15%)	16 (16%)	
Cirrhotic (N=89)	9 (35%)	22 (49%)	8 (31%)	39 (44%)	0.308
HBSAg reactive (N=92)	11 (42%)	24 (49%)	12 (46%)	47 (51%)	0.989
Anti-HCV reactive (N=63)	1 (4%)	2 (4%)	0	3 (5%)	0.554
Presenting Symptoms: (N=97)					<u>0.009</u>
Asymptomatic	13 (50%)	6 (12%)	7 (27%)	26 (27%)	
Abdominal symptoms	8 (31%)	31 (63%)	13 (50%)	52 (54%)	
Liver decompensation	4 (15%)	2 (4%)	2 (8%)	8 (8%)	
Constitutional symptoms	1 (4%)	6 (12%)	4 (15%)	11 (11%)	

	RFA N=26(%)	TACE N=49(%)	OTHER MODALITIES N=26(%)	OVERALL TOTAL N=101(%)	P value
CTP Score: (N=89)					0.854
A	20 (77%)	31 (63%)	19 (73%)	70 (79%)	
B	4 (16%)	8 (16%)	4 (16%)	16 (18%)	
C	0	2 (4%)	1 (4%)	3 (3%)	
ECOG Performance Status:					0.107
0-1	26 (100%)	41 (84%)	22 (85%)	90 (89%)	
2-4	0	8 (16%)	3 (15%)	11 (11%)	
BCLC Stage:					0.192
A	4 (15%)	2 (4%)	5 (19%)	11 (11%)	
B	19 (73%)	34(69%)	13 (50%)	66 (65%)	
C	3 (12%)	11 (22%)	6 (23%)	20 (20%)	
D	0	2 (4%)	2 (8%)	4 (4%)	
Extrahepatic Metastasis (N=98)	1 (4%)	6 (12%)	3 (12%)	10 (10%)	0.487
Portal Vein Thrombosis	2 (8%)	7 (14%)	6 (23%)	15 (15%)	0.293
Alpha fetoprotein (N=92)					0.167
<200 ng/mL	11 (42%)	29 (59%)	14 (54%)	54 (59%)	
>200 ng/mL	14 (54%)	14 (29%)	10 (38%)	38 (41%)	

	Mean \pm SD	P value
Size of tumor	7.7 \pm 4.2	<u>0.000</u>
Number of tumors	1.6 \pm 1.2	0.182
Age	62.1 \pm 13.1	0.211

Overall Survival Comparing Treatment Modalities



P=0.279

TREATMENT GROUP	NUMBER OF REMAINING CASES			
	6 MONTHS	12 MONTHS	18 MONTHS	24 MONTHS
RFA	21	13	9	7
TACE	31	16	12	9
OTHERS	16	13	11	10

	6 months	12 months	18 months	24 months	MEDIAN SURVIVAL
RFA (N=26)	91%	64%	53%	41%	21 MONTHS
TACE (N=49)	67%	42%	34%	31%	9 MONTHS
Other modalities (N=26)	65%	61%	56%	51%	25 MONTHS

PROGNOSTIC FACTORS ON UNIVARIATE ANALYSIS

Patient Characteristics	Median survival (in months)	p value
Presence of Cirrhosis		0.049
Yes	12 ± 2.9	
No	21 ± 7.7	
ECOG Performance Status	15 ± 4.3	0.001
0-1	4 ± 2.0	
2-4		
Child Turcotte Pugh Score	21 ± 5.1	0.003
A	8 ± 1.8	
B		
C		
Portal Vein Thrombosis	8 ± 2.3	0.001
Yes	21 ± 6.6	
No		

Patient Characteristics	Median survival (in months)	p value
BCLC Stage		0.032
A	21 ± 2.7	
B	15 ± 8.2	
C	9 ± 4.4	
D	-	
Serum Albumin		0.009
< 3.8	12 ± 4.7	
> 3.8	36 ± 12.5	
Total Bilirubin		0.006
< 1.04	21 ± 6.7	
> 1.04	8 ± 1.6	

INDEPENDENT PREDICTOR OF OVERALL SURVIVAL ON MULTIVARIATE ANALYSIS

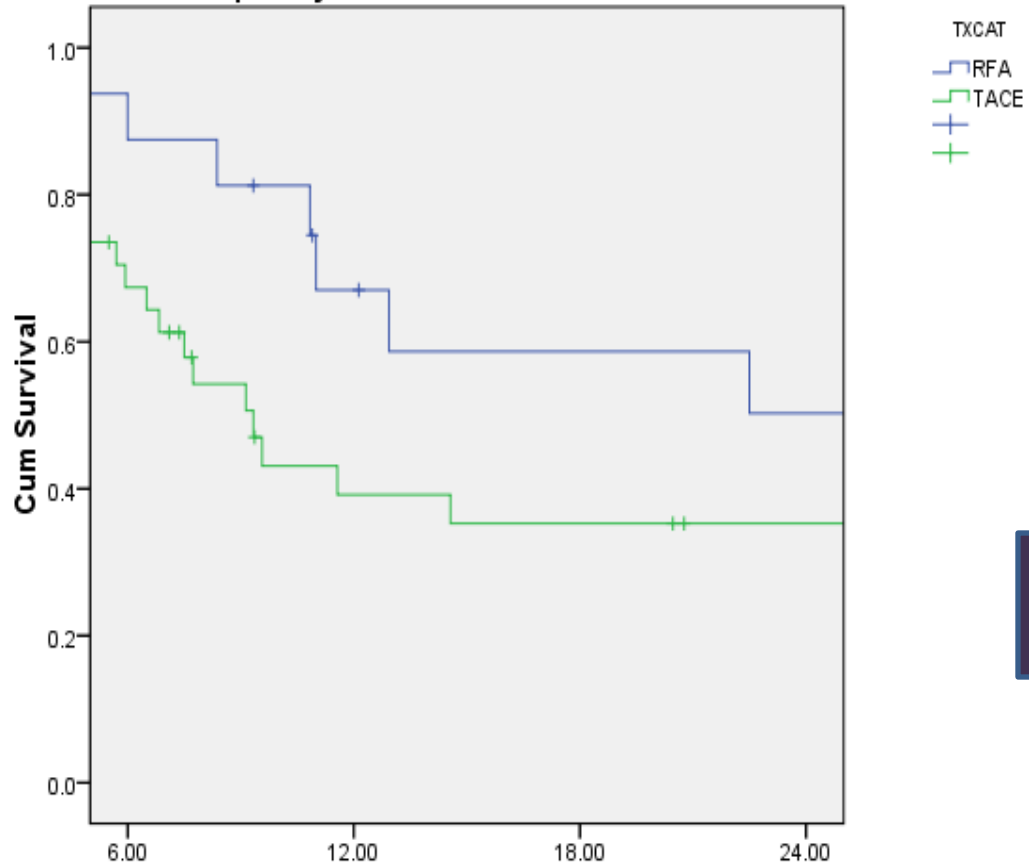
	p VALUE	ODDS RATIO	95% CI
CHILD TURCOTTE PUGH SCORE A vs B	0.006	3.03	1.49-6.25

POST-HOC ANALYSIS OF BCLC B PATIENTS

Predictors of Survival on Univariate Analysis

Patient Characteristics	Median Survival (in months)	p value
Sex		<u><i>0.021</i></u>
Male	15±7.4	
Female	5±2.7	
Serum Albumin		<u><i>0.021</i></u>
<38 g/L	9± 2.2	
>38 g/L	37 ± 1.5	
Child Turcotte Pugh Score		<u><i>0.016</i></u>
A	23± 10.8	
B	8 ± 1.8	
ECOG Performance Status		<u><i>0.001</i></u>
0-1	15 ± 7.6	
2-4	2 ± 2.5	

Overall Survival of Patients Classified under BCLC B treated with Radiofrequency Ablation and Transarterial Chemoembolization



P=0.77

TREATMENT GROUP	NUMBER OF REMAINING CASES			
	6 MONTHS	12 MONTHS	18 MONTHS	24 MONTHS
RFA	14	9	7	6
TACE	22	10	9	-

	6 months	12 months	18 months	MEDIAN SURVIVAL
RFA	88%	67%	59%	36 mos
TACE	67%	39%	35%	9 mos

Conclusion

- Advanced stage of presentation, poor functional or performance status, and poor underlying liver function predict poor survival outcomes in patients with HCC.

Conclusion

- **Child Turcotte Pugh score** is the only independent predictor of overall survival in patients with Hepatocellular Carcinoma.

THANK YOU FOR YOUR KIND ATTENTION.