La SABR nel trattamento dell'HCC: Esperienza dell'Universita' di Torino

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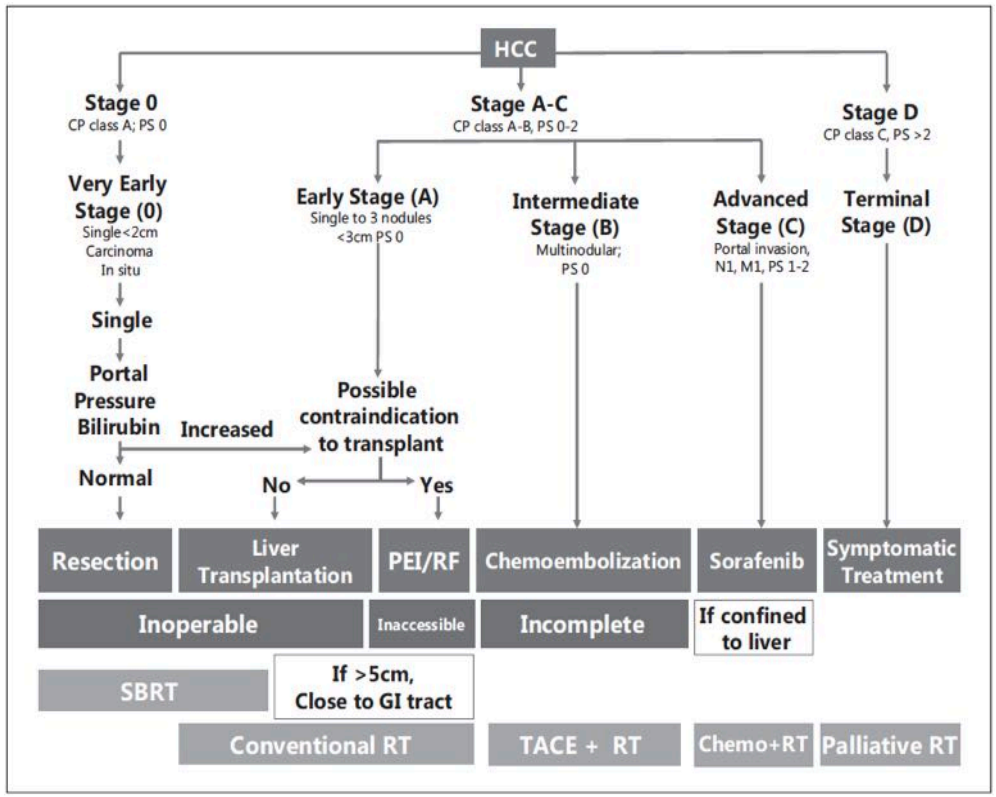

Evaluating the feasibility, toxicity and clinical outcomes of SABR in the treatment of HCC

September 2012–November 2015: 100 patients /145 lesions

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MATERIALS AND METHODS

82 patients / 120 lesions : considered for analysis

Patients characteristics

Gender	
Males	59 (48.32%)
Females	23 (18.86%)
Age	
Mean age (range)	70 (44-90)
Stage	
BCLC 0	13 (10.6%)
BCLC A	39 (31.98%)
BCLC B	24 (19.68%)
BCLC C	6 (4.92%)
Child –Pugh score	
CP A	66 (54.1%)
CP B7	9 (12.1%)
CP B-9	5 (7.3%)
Not evaluable	2 (1.6%)
Cirrhosis	
viral	58 (47.56%)
Not viral	24 (19.68%)
Tumor vascular thrombosis	6

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Patients characteristics

Indications (lesions)	
Exclusive	67 (54.9%)
Relapse	53 (43.4%)
OLT (patients)	9 (7.3 %)
Median time (months)	2.9 (0.4-6.93)
Tumor size (mm)	
Median (range)	22 (7-120)
Mean (SD)	25 (±16.5)
Tumore site (lesions)	
Caudate lobe	6 (4.9 %)
Right liver	78 (63.9 %)
Left liver	36 (29.5%)
Median Time Diagnosis-SBRT (months)	22.85 (0.83-190.47)
Median follow-up	14 months (3- 27)

CLINICAL INDICATION

- Surgery and loco-regional treatment contraindicated or refused
- Recurrent HCC after loco-regional treatment
- HCC BCLC B in association with loco-regional treatment (e.g TACE)
- As a bridge to OLT
- Neoadjuvant to liver trasplantation or local treatment (downstaging)

ELIGIBILITY CRITERIA

- Histological or radiological confirmation of HCC
- Single lesion with/without satellite nodules
- Multiple lesions: number ≤3, diameter ≤6 cm
- Child-Pugh A-B
- No extrahepatic disease (N1-M1)
- Tumor vascular thrombosis (TVT)

…"IDEAL PATIENT"

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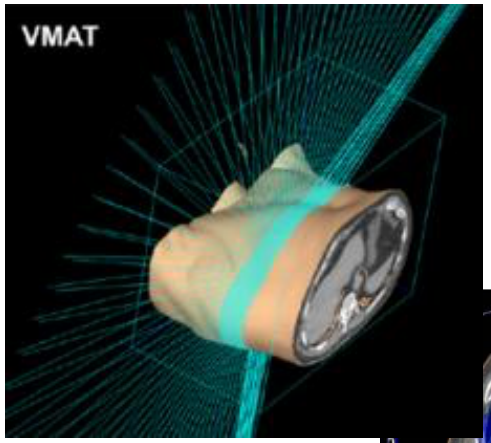
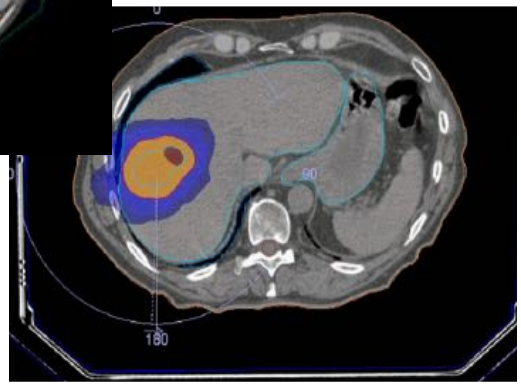
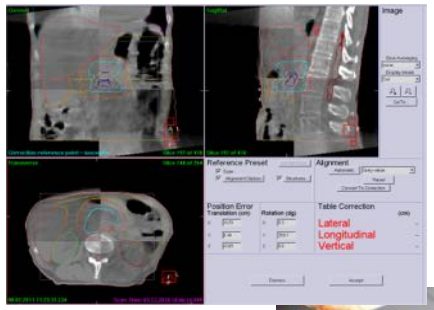
PRESCRIPTION Dose	N.Lesions	BED (α/β_{10})
36 Gy/ 3 fr (isodose 80%)	21	79.2 Gy
40 Gy/5 fr (isodose 80%)	24	60 Gy
45 Gy/ 3 fr (isodose 80%)	4	112.5 Gy
48 Gy/ 3 fr (isodose 80%)	71	124.8 Gy



VMAT
1-2 arc





IGRT-CBCT

HexaPOD™ with iGuide Tracking System

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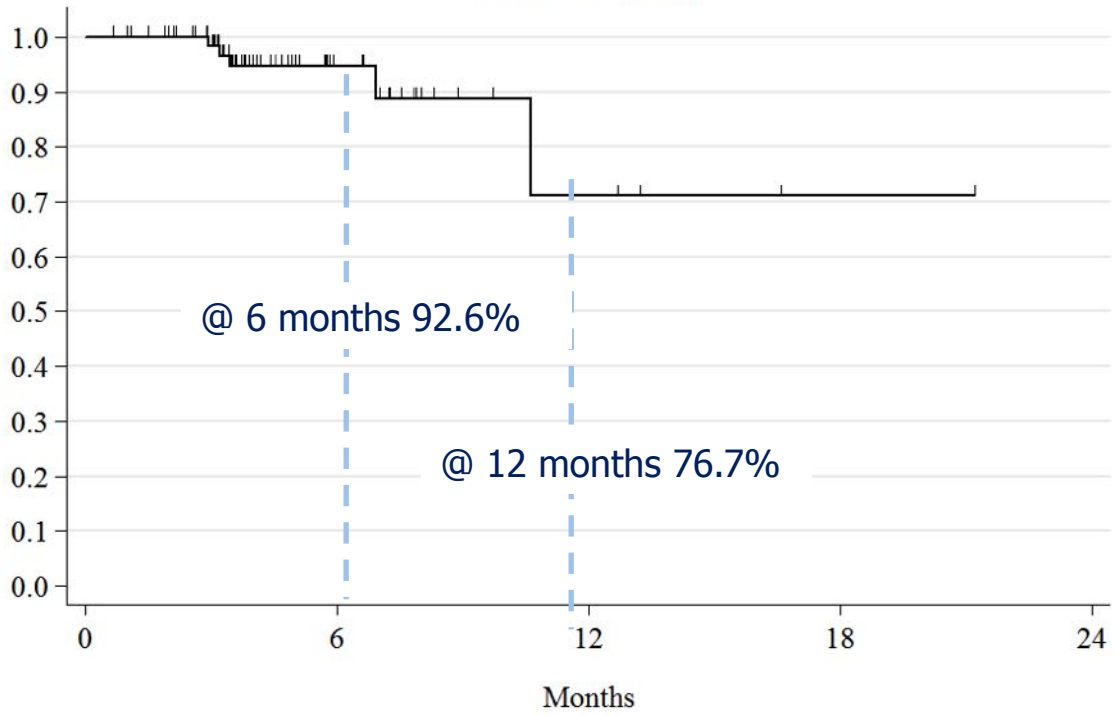
Results – Local Control

113/120 lesions evaluable (7 lesions not evaluable:2 deaths+2 trasplanted)



Response evaluation with CT and/or MRI mRECIST

N. Lesions	
CR	67 (71%)
PR	31 (35%)
SD	13 (14.6%)
PD	6 (6.7%)
Time to Progression	5.9 months (2.9-27)

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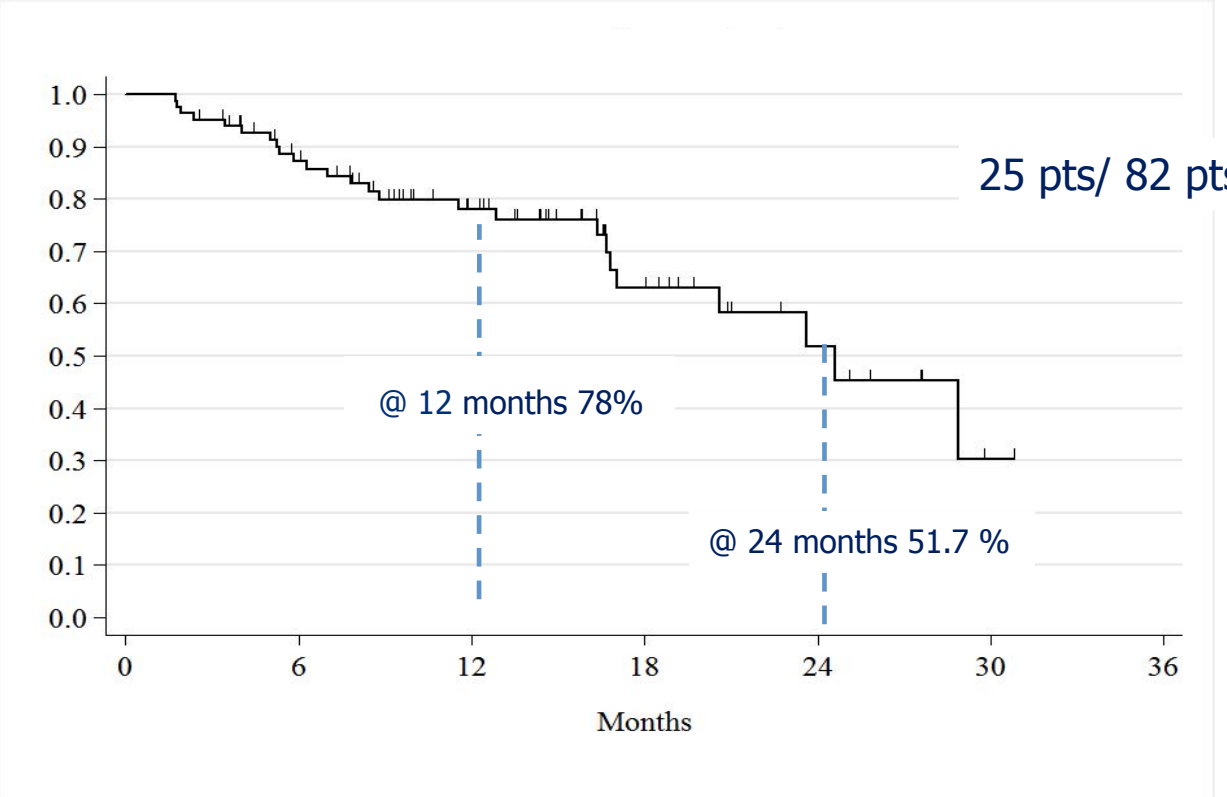
Results – Overall Survival



25 pts/ 82 pts (20%) died

TO COMPLICATIONS POST-TRANSPLANT	2	
TO PROGRESSION DISEASE	9	Median time to death: 13 months
FOR HEPATIC DECOMPENSATION IN THE CONTEXT OF CRONIC LIVER	10	Median time to death : 6.7 months
DEATH FOR RILD	1	After 6 months
FOR OTHER CAUSES	3	

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Results-Overall Survival

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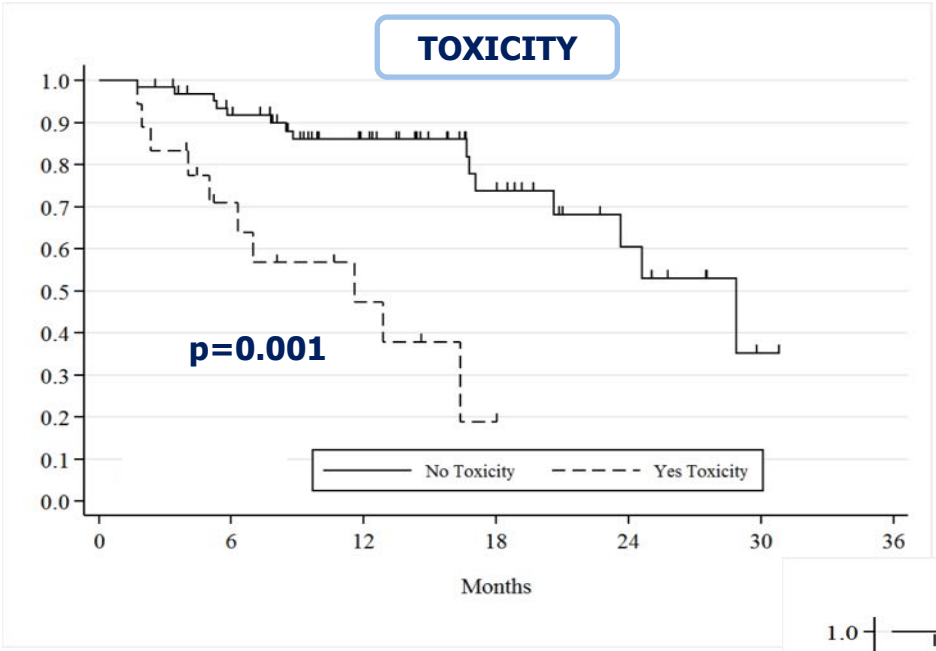
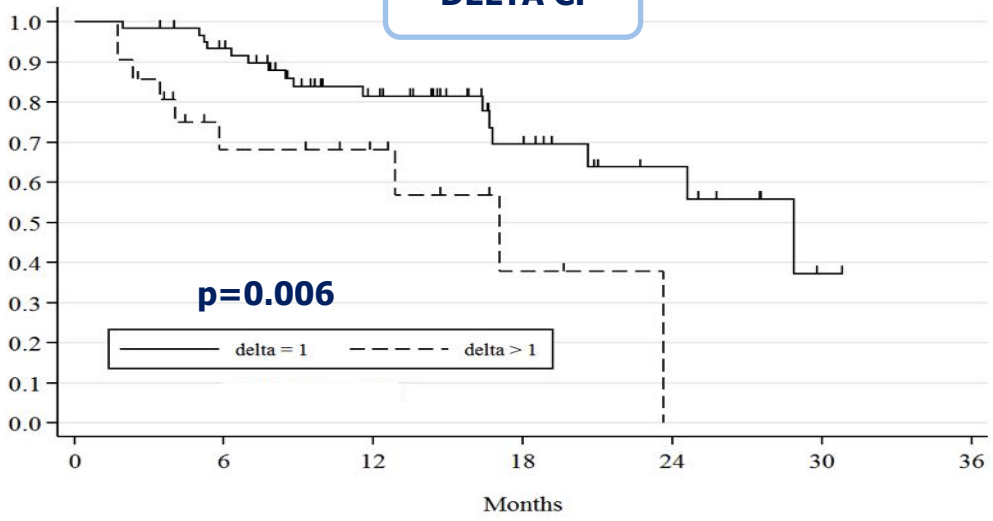


Significance of an increase in the Child-Pugh score after radiotherapy in patients with unresectable hepatocellular carcinoma

Seok Hyun Son[1], Hong Seok Jang[2], In-Young Jo[1], Byung Ock Choi[2], Jeong Won Jang[3], Seung Kew Yoon[4] and Chul Seung Kay[1*]

Son *et al. Radiation Oncology* 2014, 9:101

DELTA CP



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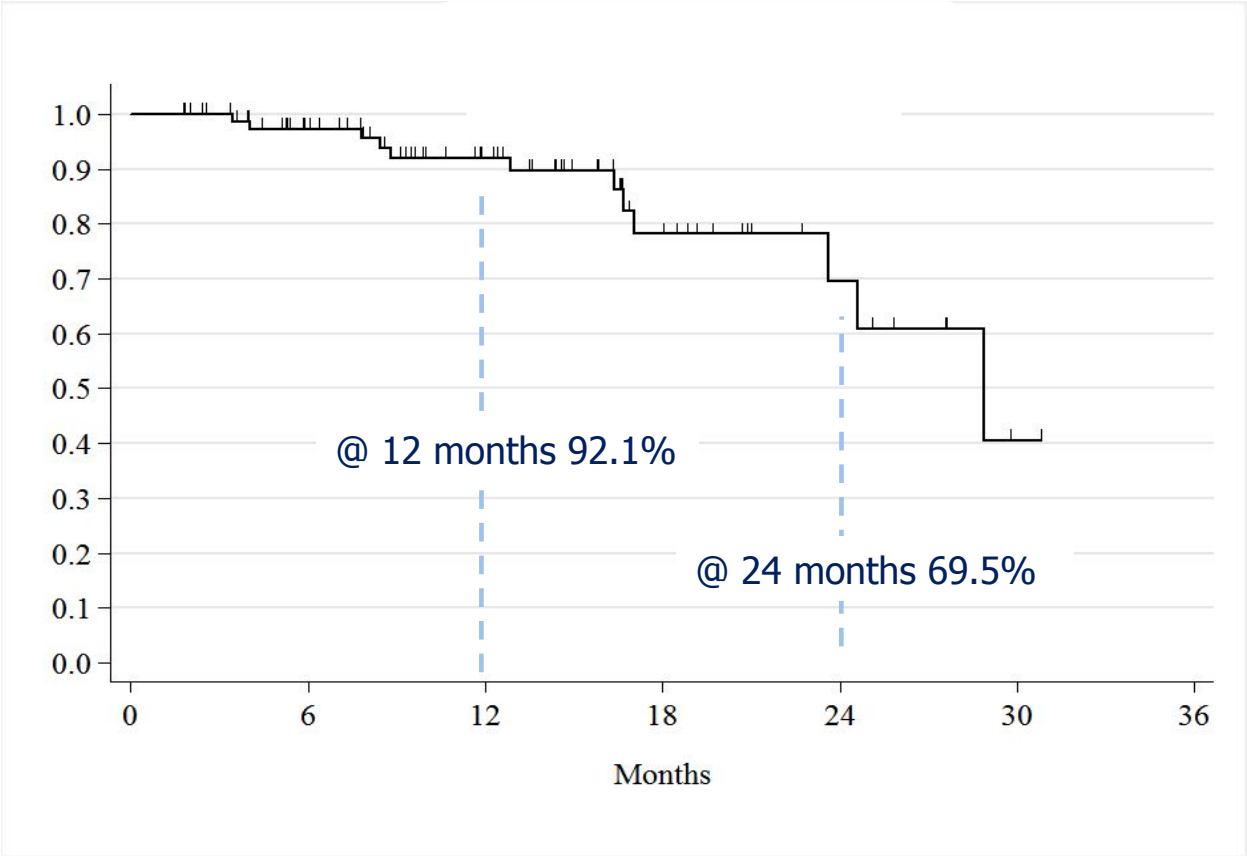
Results-Cancer Specific Survival



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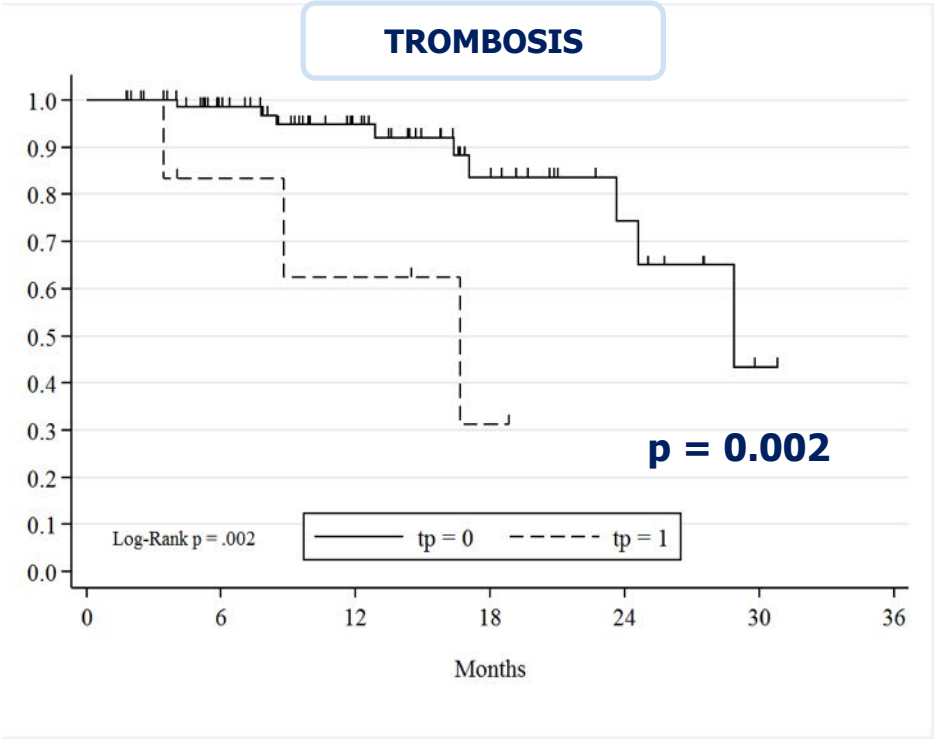
Results-Cancer Specific Survival

TROMBOSIS

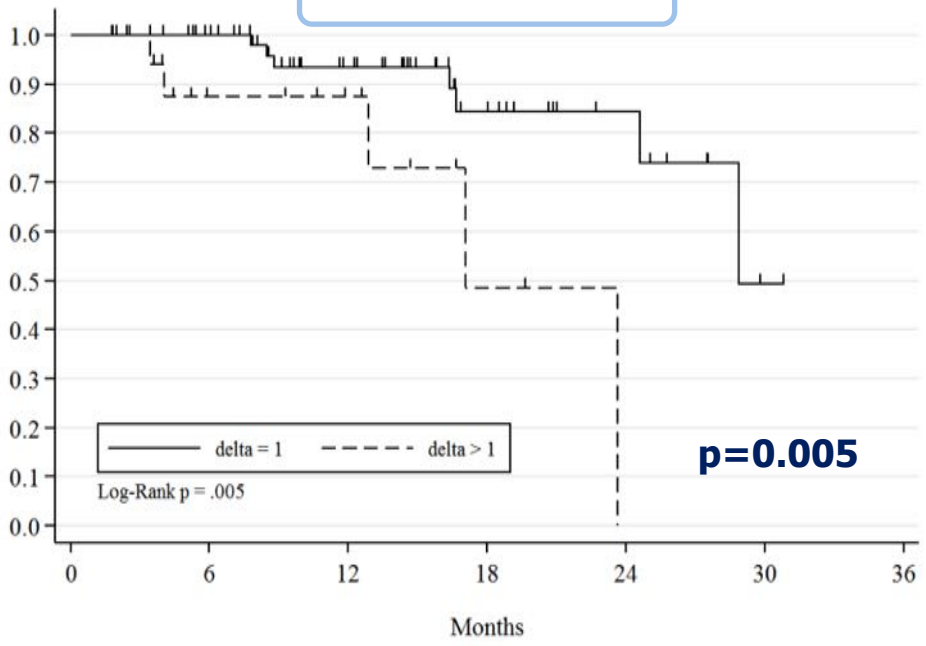


p = 0.002

Effectiveness of Stereotactic Body Radiotherapy for Hepatocellular Carcinoma with Portal Vein and/or Inferior Vena Cava Tumor Thrombosis

Mian Xi, Li Zhang, Lei Zhao, Qiao-Qiao Li, Su-Ping Guo, Zi-Zhen Feng, Xiao-Wu Deng, Xiao-Yan Huang, Meng-Zhong Liu*

DELTA CP



p=0.005

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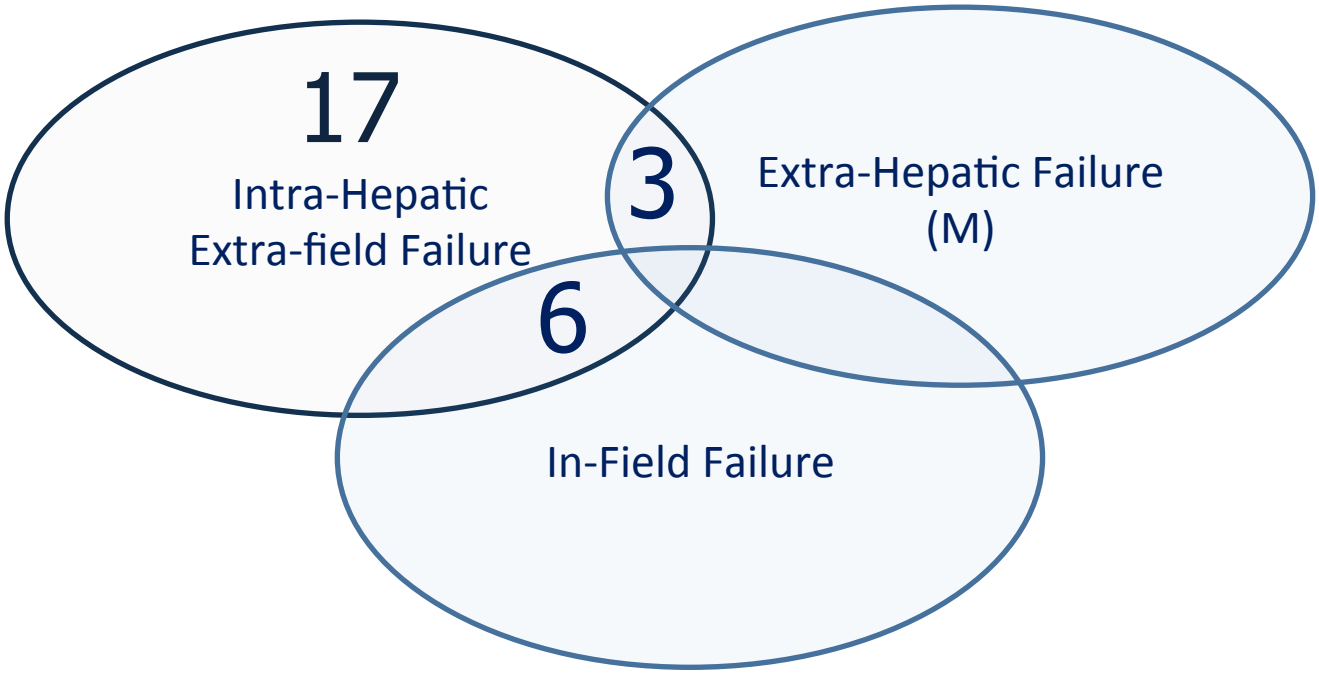
Pattern of Failure



Site of Failure	N. patients
In-Field	6/82
Intrahepatic (new hepatic lesions)	26/82
Extrahepatic	3/82

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Results-Toxicity (CTCAE≥Gr3)

	Blood Chemistry Test	GI tox* (gastric ulcer/intestinal perforation)	Liver failure
During SBRT	-	-	-
1 months after SABR	Gr 3 Bilirubin: 3 patients Gr 4 Bilirubin: 1 patient	-	NO CLASSIC RILD 4 patients
3 months after SABR	Gr 3 Bilirubin+ Ascites: 7 patients	-	-
6 months after SABR	Gr 3 Bilirubin+ Ascites: 4 patients Gr3 Encephalopathy: 1 patients	-	

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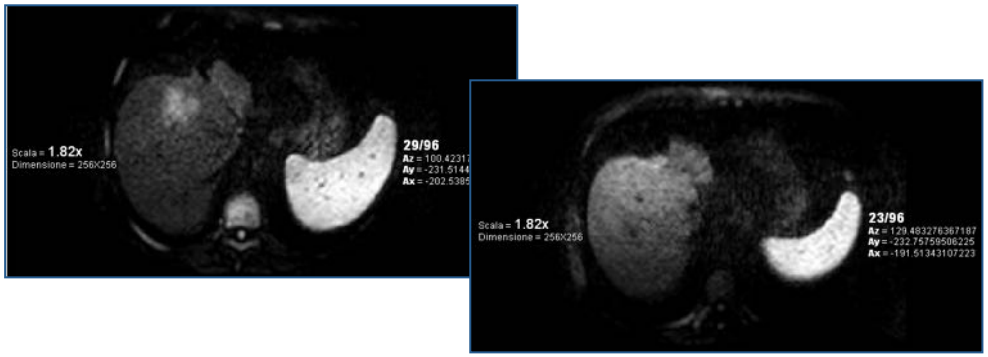
.....Ongoing Project

SABR as bridge to liver transplantation in HCC

8 patients / 12 lesions

Pts	Toxicity SABR	Delta CP (points)	Radiological Response(TC/RM)	Pathological Response
1	G2 (3 months)		RC (2 months)	RC
2	RILD no classica (1 months)	3	SD(1 month)	Low
3	G0		SD(3 months)	RC (2 lesions)
4	G1 (10 days)	1	NA	Significative
5	G1 (1-3months)	1	SD (2 months)	RC
6	G3 (3 months)	1	RC (3months)	RC
7	RILD no classic (1 months)	3	NA	Low
8	G0		NA	RC (3 lesions)



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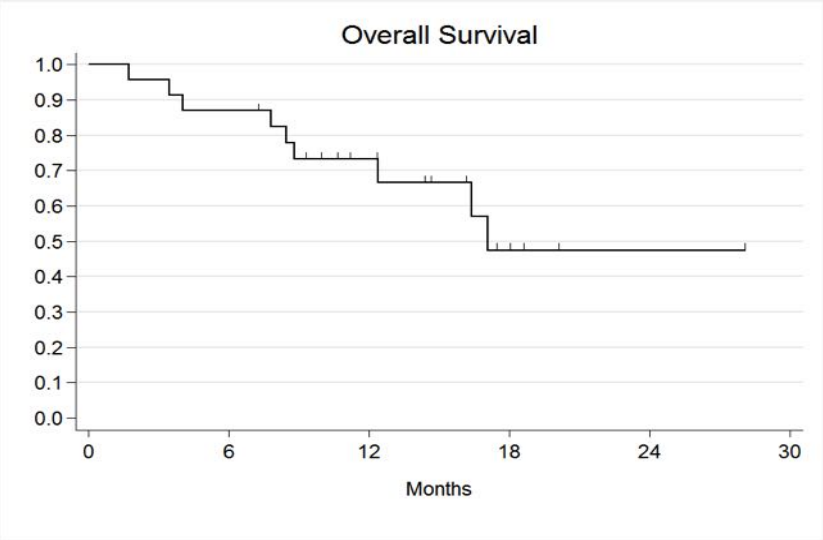
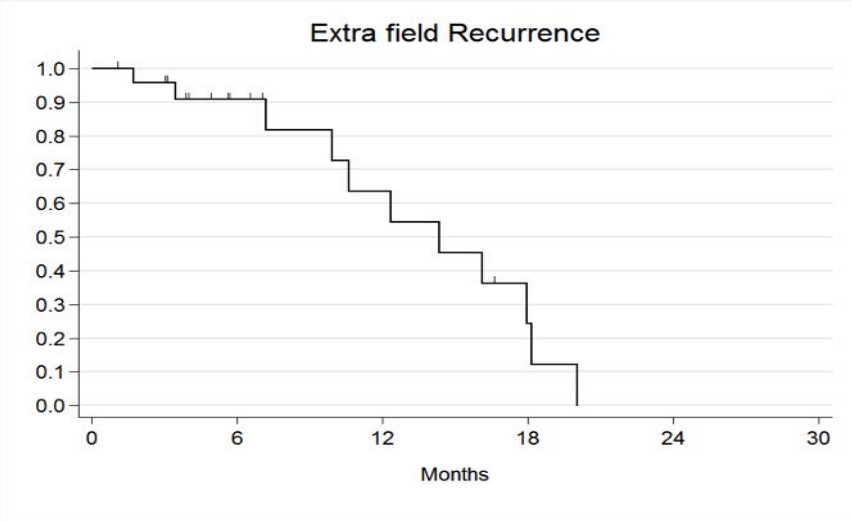
SABR in the treatment of "large"HCC





Patients/lesions	23/25
Median Tumor size (mm)	46 (31-120)
Radiological Response	47.2 %(1-yr)
CR	44%
PR	2.25 %
SD	1%
Overall Survival	75% (1-yr)
Progression Free Survival	48.2 %(1-yr)
Toxicity ≥ Gr 3	13%

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Conclusion

The stereotactic ablative radiotherapy has demostrated an encouranging rate of local control of disease with an accetable toxicity profile

It is necessary a follow-up period to asses the long-term control of the disease and allow a comparison with the results obtained from established tecniques, such as RFA and TACE

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