

# A Comparison of Treatment Outcome of HCC in Caudate Lobe, between Thermal Ablation and TACE: A Retrospective Review

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## INTRODUCTION

The curative intent for early stage of hepatocellular carcinoma (HCC) in the caudate lobe are challenge: the difficult needle insertion in deep location surrounded by vital structures during thermal ablation versus the limited exploration of the caudate artery during transarterial chemoembolization (TACE).

**OBJECTIVE:** To compare the outcome of HCC in caudate lobe between thermal ablation and TACE

## METHODS

- A single-center retrospective observational study
- Reviewed data from June 2012 to June 2022, in Siriraj Hospital

RFA, microwave ablation and TACE  
in "caudate" or "segment 1" from RIS

### Inclusion

- New HCC lesions in caudate lobe,  $\leq 3$  cm
- No previous treatment at caudate lobe
- BCLC 0-A
- CTP A or B
- PS 0-1

Thermal ablation  
(N=32)

TACE  
(N=21)

53 patients

483 procedures

## PROCEDURE

### Thermal ablation

- Under IV sedation and 1% lidocaine at access site
- Image guidance: US +/- NCCT during the procedure
- RFA or microwave ablation
- Ablative zone : at least 5-mm margin

### TACE

- Under local anesthesia with 1% lidocaine at access site
- Transfemoral or transradial approach
- Additional CBCT of hepatic a. when the feeding vessels were not visible in 2D image
- Selective TACE with gelfoam embolization
- Using Mitomycin-C plus Lipiodol

## OUTCOME

### Primary outcome

**LTP:** Earliest CT/MRI after complete treatment, showing local recurrence

### Secondary outcome

**OS:** Duration between the 1<sup>st</sup> session treatment and the last follow up  
**Technical efficacy:** Absence of viable tumor after the first treatment

LTP = local tumor progression, OS = overall survival

## RESULTS

### BASELINE CHARACTERISTIC

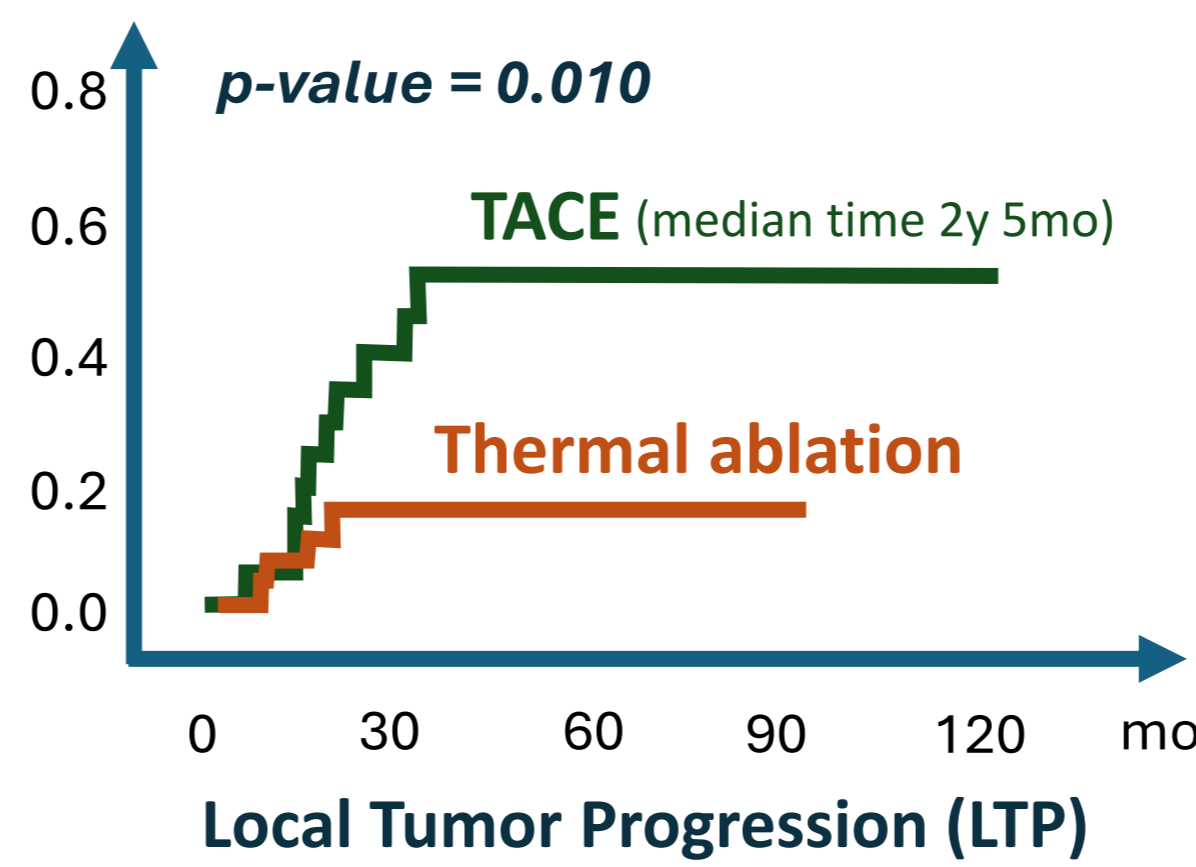
Clinical variables	Ablation (N=32)	TACE (N=21)	P-value
Age (y)	66.6 ± 13.8	65.8 ± 11.8	0.838
Sex (M/F)	23/9	13/8	0.447
Liver disease			
HBV infection	16 (50%)	8 (38.1%)	0.394
HCV infection	10 (31.3%)	6 (28.6%)	0.835
Cryptogenic	2(6.3%)	6 (28.6%)	<b>0.026</b>
BCLC staging (0/A)	17/15	5/16	<b>0.034</b>
CTP score (A/B7/B8)	29/2/1	20/1/0	0.446
Laboratory test			
AFP (ng/ml)	5.08 (0.8-4,312)	9.08 (1-4,018)	0.445
Treatment naïve	6 (18.8%)	5 (23.8%)	0.657

### TUMOR CHARACTERISTIC

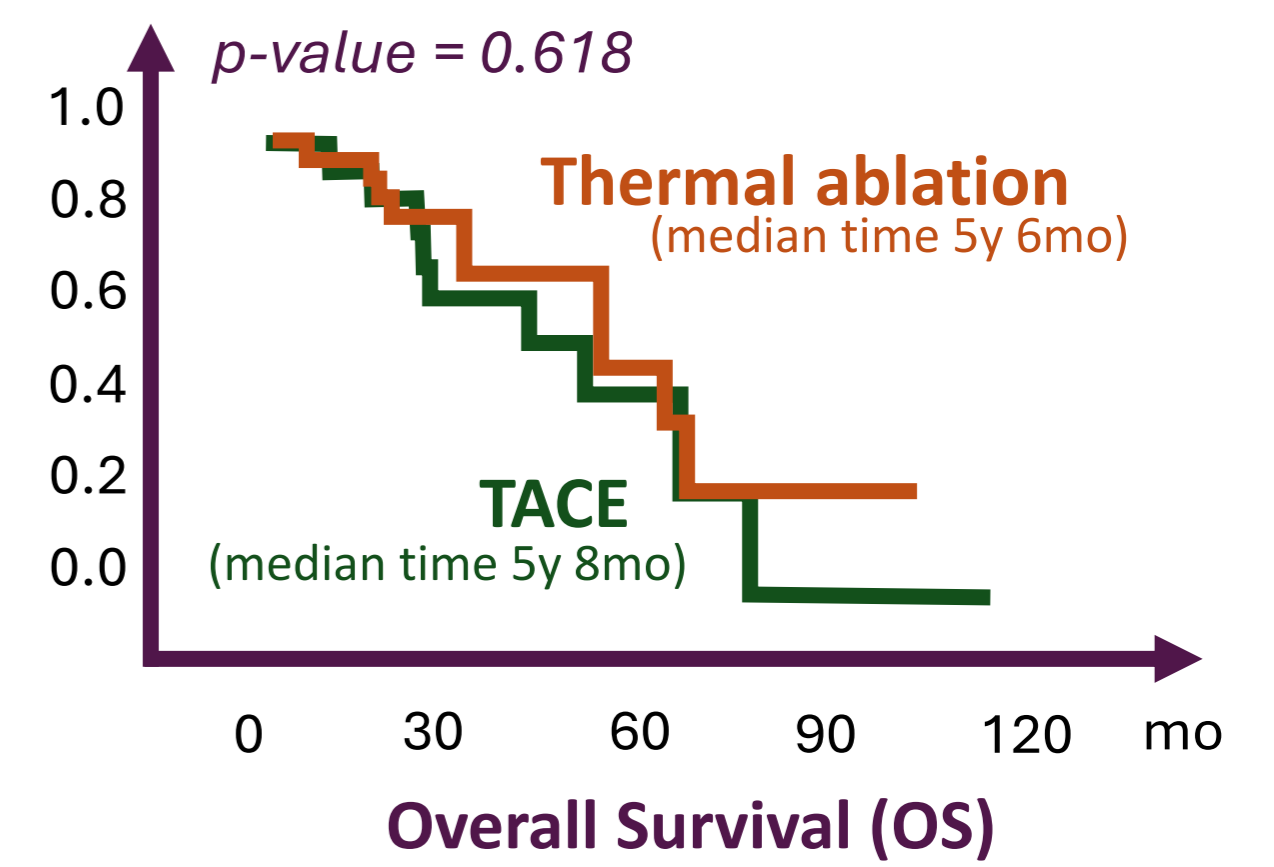
Clinical variables	Ablation (N=32)	TACE (N=21)	P-value
Tumor size (cm)	1.3 (0.4-2.8)	1.9 (0.7-3)	0.154
Tumor location (S/ P/ C)*	19/7/7	14/6/4	0.877

\*S = Spiegel's lobe, P = Paracaval lobe, C = Caudate process

### OUTCOME



Recurrent rate	1y	2y	3y	5y
Ablation (4/31)	10.1%	14%	14%	14%
TACE (10/21)	15.6%	43.7%	57.8%	57.8%

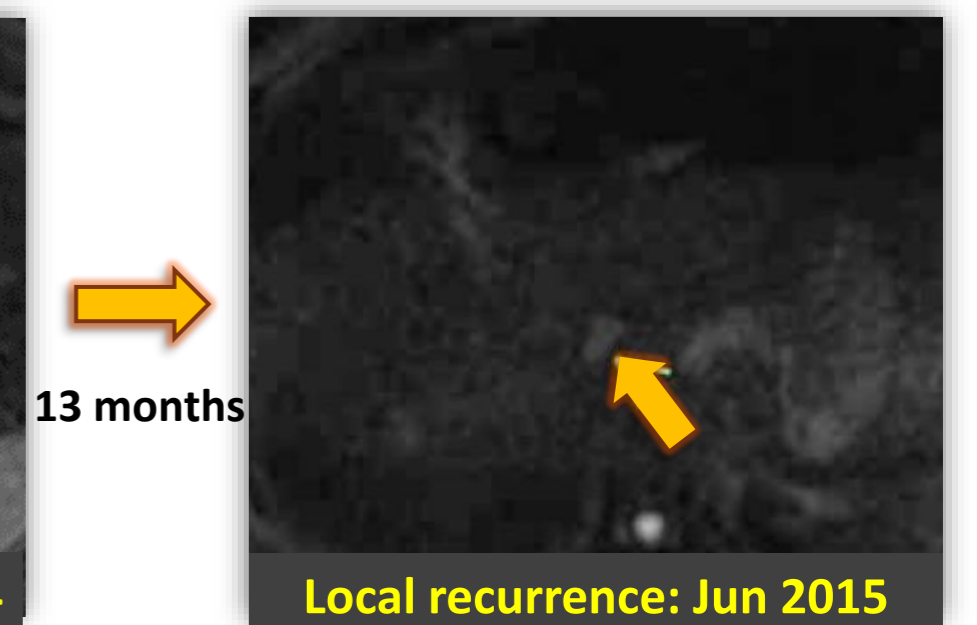
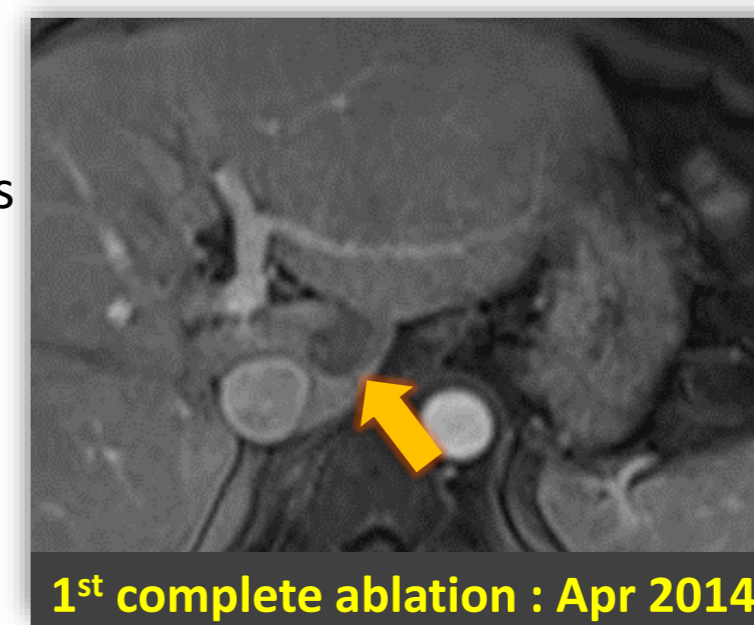


Survival rate	1y	2y	3y	5y
Ablation	93.2%	86.0%	76.5%	59.5%
TACE	89.7%	83.7%	63.8%	36.5%

Data variables	Ablation (N=32)	TACE (N=21)	P-value
Technical efficacy	26 (81.3%)	10 (47.6%)	<b>0.010</b>

### Example Case

- A 44-year-old-male, HBV cirrhosis
- BCLC-0, CTP-A5, PS 0
- AFP 1.33 ng/ml
- 1<sup>st</sup> Diagnosis HCC : Feb 2014
- A 0.9-cm HCC at Spiegel's lobe



## DISCUSSION

For the ablation group, the LTP was 12.9% equivalent to other studies but slightly higher than Lee BC et al's study due to the different inclusion criteria and procedural protocol. Furthermore, the 3rd year LTP was 14% equivalent to previous combined treatment studies that implied thermal ablation alone could be a cost-effective treatment option.

For the selective TACE group, the LTP was 47.6% better than selective TACE alone in HC Kim et al's study owing to 20% cases of this study using additional 3D-cone beam CT during procedure. Meanwhile, a similar 3rd year LTP among the studies was 40-60%.

The technical efficacy of the ablation group was more satisfactory than the TACE group (81.3% and 47.6%, p=0.010), however OS demonstrated no significant difference in two groups (p=0.618).

The limitation was retrospective nonrandomized controlled study in the single center; a small sample size may have some selection bias and the procedural as well as follow-up protocol control.

## CONCLUSION

- Thermal ablation seems to be superior to TACE for HCC in caudate lobe (< 3 cm) according to better local treatment response and efficacy.
- Thermal ablation should be a favorable treatment option as compared to TACE.

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