

# Very Early and Early HCC

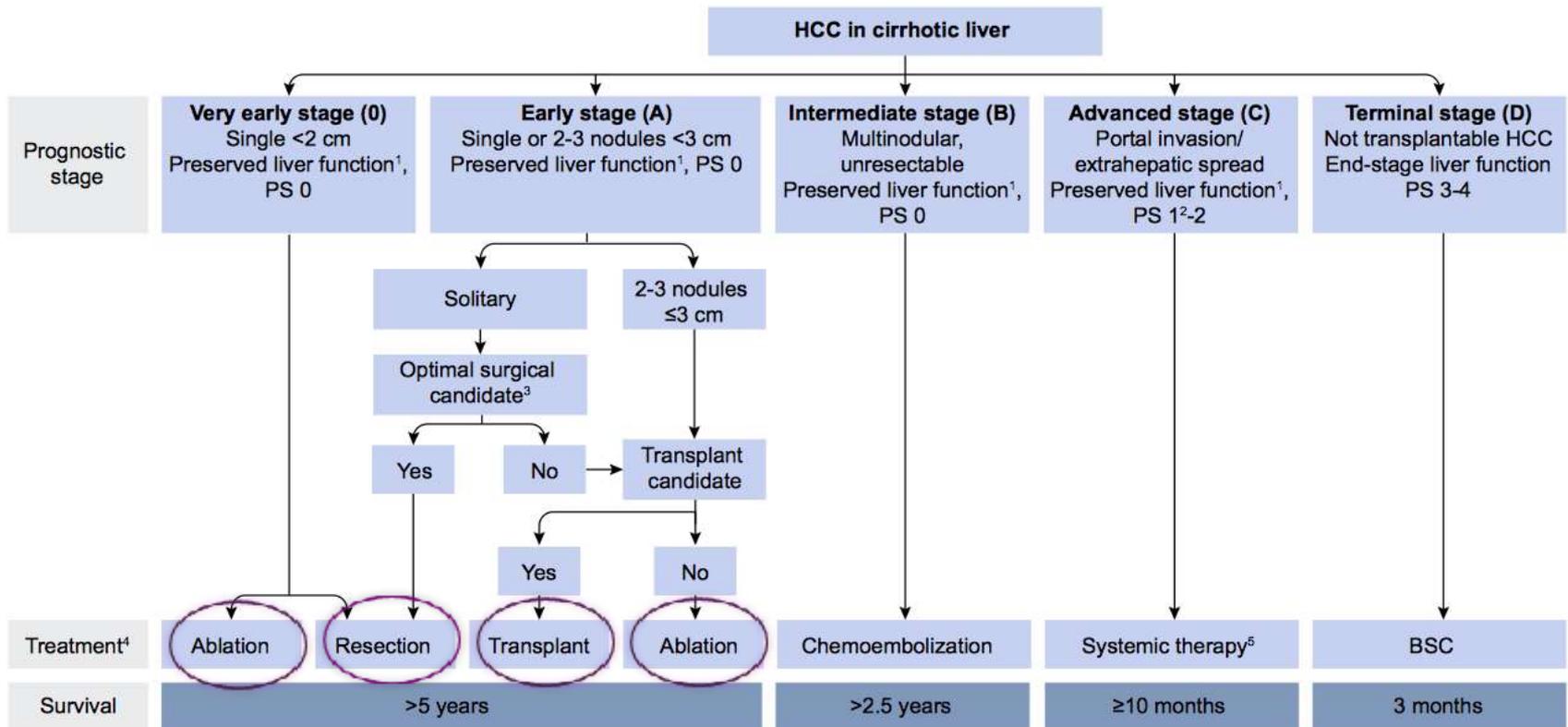
*Treatment options?*

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# Introduction

- Staging of HCC is different from any other tumor
- Underlying liver disease.
  - Impact on prognosis beyond the tumor burden
- BCLC ( Plan treatment option and predict clinical outcomes)
  - Endorsed
    - EASL
    - AASLD

# BCLC classification



- Decision of treatment of HCC (BCLC, rigidity) is performed in a multidisciplinary tumor board .
- Individual treatment plan (variables).
- Ablation therapies and surgery.

# Radiofrequency ablation versus surgical resection of hepatocellular carcinoma: contemporary treatment trends and outcomes from the United States National Cancer Database

Johannes Uhlig<sup>1,2</sup> · Cortlandt M. Sellers<sup>1</sup> · Stacey M. Stein<sup>3,4</sup> · Hyun S. Kim<sup>1,3,4</sup>

European Radiology December 2018

- RFA, n = 8211; surgical resection, n = 10,085
- Only first-line HCC treatments were reported
- 10 year-period (2004, 2014)
- The majority of cases in the NCDB followed international guidelines, such as BCLC...

- Subgroup analyses:
  - **Overall survival was comparable for patients >65 yo and those with HCC less than 15mm.**
  - Subgroups(HCC<50mm, HCC<30mm, single HCC>50mm, multiple HCC>30mm...)

- **Short-term overall survival benefit for RFA**
- **Long-term OS was superior for surgical resection**

# Ablation vs Surgery

## Very early and early HCC

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- ✓ **RFA:**
  - Shorter duration of hospital stay
  - Better post operative outcomes
  - Lower readmission rate
  - Better short time morbi-mortality (no death 30-90d)
  
- ✓ **Surgery: longer overall survival**

RANDOMIZED CONTROLLED TRIAL

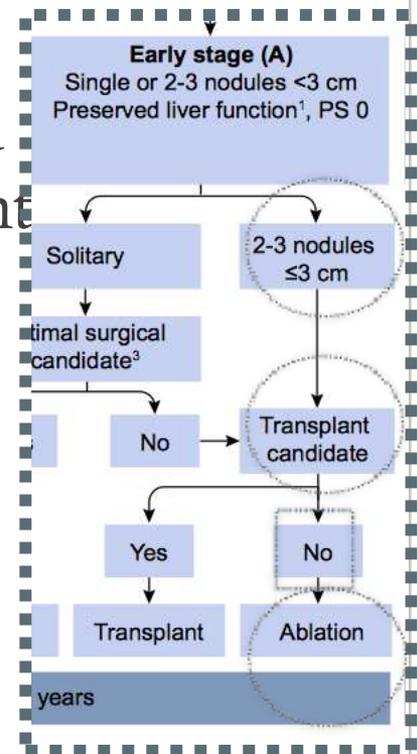
A Prospective Randomized Trial Comparing Percutaneous  
Local Ablative Therapy and Partial Hepatectomy for Small  
Hepatocellular Carcinoma

*Min-Shan Chen, MD,\*† Jin-Qing Li, MD,\*† Yun Zheng, MD,\*† Rong-Ping Guo, MD,\*†  
Hui-Hong Liang, MD,\*† Ya-Qi Zhang, MD,\*† Xiao-Jun Lin, MD,\*† and Wan Y. Lau, MD‡*

*Annals of Surgery* • Volume 243, Number 3, March 2006

- Single HCC or less than 2 HCCs less than 4-5cm
- 2-year overall survival 82.1-82.3%

- Disease recurrence is common, and in some patients will occur outside transplant criteria.
- Incidence and risk factors for recurrence beyond Milan criteria in potentially transplantable patients treated with RFA as first-line therapy.
- Results: 28% despite close follow-up



Doyle A et al. Hepatol. 2019. Outcomes of Radiofrequency Ablation as First-Line Therapy for Hepatocellular Carcinoma less than 3 cm in Potentially Transplantable Patients.

- Early HCC (unresectable)
- RFA could not be feasible ( high risk location)
- ***Role of TACE***
  - (TACE is often performed in early HCC)
- Inconspicuous nodule
  - Anatomic location:
    - Close to the hilum
    - Close to hepatic vein
    - Subcapsular
    - Colon, stomach...

**Teratani T et al. RFA for HCC in so-called high risk locations.  
Hepatol.Baltim Md 2006; 43:1101-1108**

# TACE in early HCC

- Supraselective TACE (first line trt in early unresectable patient)
- Retrospective. 287 pts. Single HCC  $\leq 2$  cm
- Mean follow-up period ( $66.1 \pm 25.7$  months)
- TACE was associated with an earlier time to progression TTP
- Mean survival times in the RFA and TACE groups were  $80.0 \pm 2.3$  months  $72.1 \pm 3.2$  months

Kim JW et al. Transarterial chemoembolization vs. radiofrequency ablation for the treatment of single hepatocellular carcinoma 2 cm or smaller. Am J Gastroenterol. 2014 Aug;109(8):1234-40

# TACE vs LR in Early HCC

- ✓ BCLC staging system
  - ✓ Solitary HCC= Early stage (irrespective size)
- ✓ HR vs TACE in large HCC (solitary) 5-year survival was respectively 65% vs 17% (Jin YJ)
- ✓ Lee et al. 159 pts. HR vs TACE 5-year survival (TTP longer in the surgical group) 66% vs 50%

Jin YJ .Gastrointest Surg. 2014 Mar;18(3):555-61.

Surgery versus transarterial chemoembolization for solitary large hepatocellular carcinoma of BCLC stage A.

Lee YB et al. comparison of transarterial chemoembolization and hepatic resection for large solitary hepatocellular carcinoma: a propensity score analysis. J Vasc Interv Radiol. 2015 May;26(5):651-9.

# Pathology: Complete necrosis ?

- ✓ TACE vs RFA
  - Safety margin
  - Tumor necrosis.
  - Satellite lesions.
  - Allard et al. TACE : benefit OS when it induces >90% tumor necrosis ( specimens LT, or liver resection).
  - Seror et al. RFA can achieve complete necrosis in more than 90% case. (no touch multibipolar technique).

# LR vs TACE

## Liver Resection for Multiple Hepatocellular Carcinomas *A Japanese Nationwide Survey*

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Annals of Surg. 2019

- Liver resection in multiple HCC (Japanese data)
- LR (n=1944), TACE (N=1302)
- LR showed a survival benefit over TACE at 5years (**60% vs 41.6%**)
- Subgroup analyses:
  - **Tm size of < 30 mm OS after LR 70.7% at 5 years.**

# Early HCC TACE + RFA

- Patient with unresectable HCC that is a candidate for RFA .
- Combined therapy TACE +RFA Kim et al.Hepatocellular carcinomas 2-3 cm in diameter: transarterial chemoembolization plus radiofrequency ablation vs. radiofrequency ablation alone.Kim JW et al. Eur J Radiol. 2012 Mar;81(3):189-93
- Metanalysis early stage HCC (TACE, RFA, PEI and combinations) 21 RCT1, 3, and 5-year survival.
- Rank 1: TACE + RFA. (no difference compared with HR alone)
- Lan T et al. Comparative efficacy of interventional therapies for early stage HCC. A PRISMA- compliant systematic review. Medicine 2016. vol 95:15; 1-10

# TACE prior liver resection or liver transplant

- Patient with resectable HCC going for surgical resection.
- Preoperative TACE prior liver resection or LT (373 pts)
- **Hypothesis:** the pathologic response to TACE may impact survival as the prognostic value of PR to chemo has been previously demonstrated in other malignancies.
- CPR (complete pathologic response):
  - 59 pts (32%) LR group
  - 37 pts (20%) LT group.

# TACE prior liver resection or liver transplant

- The mean pathology response to tumor size
- Best PR was observed in nodules 21-50mm (PR mean of 67%)
- PR 55 % in nodules < 20mm
- PR 53% in nodules >50 mm.
- ✓ **Impact on survival after resection:**

Improved 3 and 5-year survival with CPR compared those without 84% and 84 % compared to 72% and 65%

# CONCLUSION

- Ablation therapies and surgery (liver resection or transplantation).
- Combined therapies.
- TACE (if ablation or surgical resection not suitable).

