Expanding Horizons: Evolving Paradigms in Locoregional Therapy for Recurrent and Residual Hepatocellular Carcinoma

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Introduction

- Recurrence rates of Hepatocellular Carcinoma (HCC) remain up to 70% within 5 years following resection[1] and 62% within 3 years following locoregional therapies (LRT) such as transarterial chemoembolization (TACE).[2]
- Long-term prognosis remains unsatisfactory, directing research to identify effective approaches for salvage treatment.
- Although recurrent HCC is often managed similarly to de novo disease, retreatment strategies must address the added complexity of prior interventions and altered hepatic reserve.
- This exhibit reviews salvage strategies using LRTs, including TACE, transarterial radioembolization (TARE), and ablation, for patients with residual or recurrent HCC after initial intervention.

Imaging & Assessment

Residual Disease[3]

- AASLD post-LRT imaging guidelines: Post-TACE – 6 weeks; Post-TARE- 12 weeks; Post-ablation: 4 weeks.
- Persistent enhancement with washout at prior treatment site; use subtraction.
- Treatment: Repeat LRT.
- Typically, there are minimal additional considerations.

Recurrent Disease[3]

- Long-term imaging every 3-6 months after 2 years.
- Persistent nodular enhancement with washout near or at different site; prior imaging shows nonviable disease.
- Treatment: Reassessment.
- Consider distorted vasculature, prior LRT, liver function.

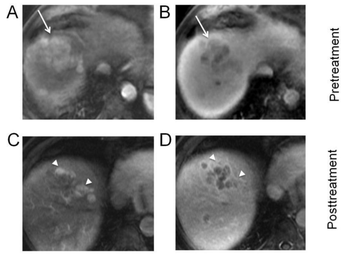

Figure 1: Imaging characteristics on MRI – (A) –Pre-TACE hyperenhancement. (B) – washout. (C) – Post-TACE hyperenhancement. (D) - washout [4]

Figure 2: 8 months post-TARE – new washout (not shown) with increased size.[5]

Initial Treatment Selection

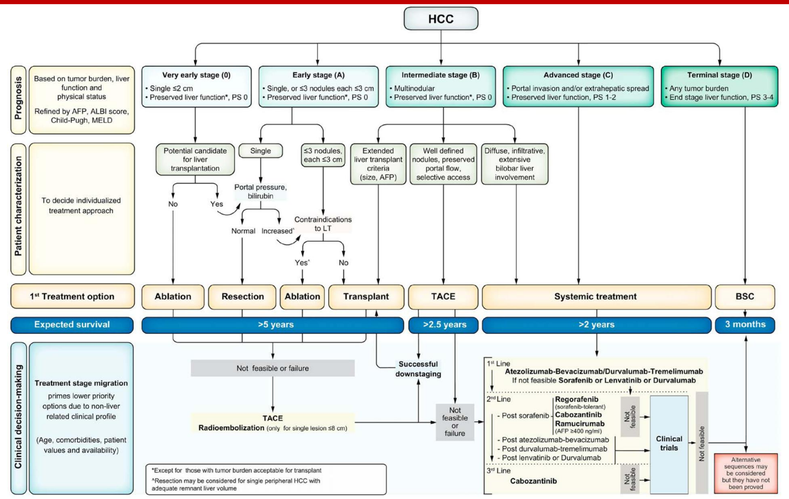

Figure 3: AASLD Treatment Hierarchy detailing initial de novo treatment selection of therapy given classification of HCC tumor.[3]

Salvage Treatment Selection

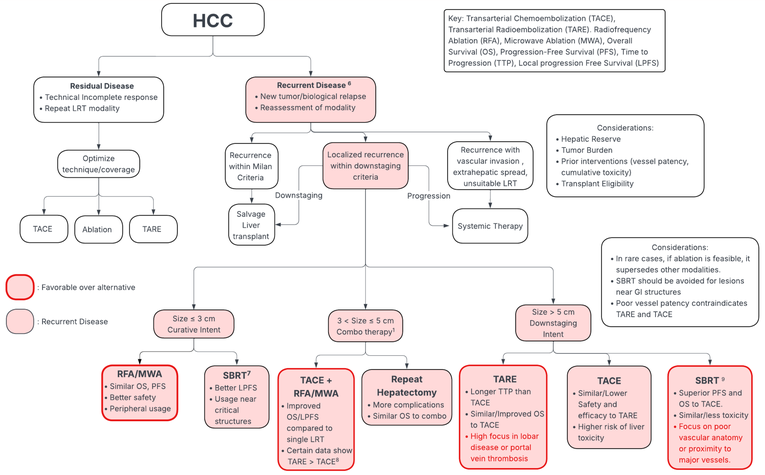

Figure 4: Algorithm for treatment selection in residual vs. recurrent HCC following LRT.

Additional Considerations

- The algorithm assumes that the listed LRTs are technically feasible and equally clinically indicated.
- Absolute contraindications, such as poor hepatic reserve or portal vein thrombosis, should be considered before selecting a modality along with lesion-specific factors, such as tumor location and vascular proximity.
- Therapy should be individualized to maximize tumor control, preserve liver function, and maintain or downstage patients for transplant eligibility.
- Figure 4 serves as a general guideline when multiple locoregional therapy options are feasible and individual patient factors must guide final selection.

Discussion

- Residual disease often warrants repeating the same modality while recurrent disease requires reevaluation and may involve combination therapy, driven by patient and tumor characteristics.
- Ideal treatment strategies for recurrent HCC remain uncertain but LRTs continue to play a central role in tumor control and transplant bridging.
- Multimodal therapies show promise for intermediate lesions and warrant further clinical trials to guide integration into routine practice and optimize protocols.[1]
- Integration with systemic therapies and advances in imaging or treatment planning may further improve outcomes.

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