

Transarterial Therapies for Primary Liver Tumors

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KEYWORDS

- Transarterial • Chemoembolization • Radioembolization • Hepatocellular carcinoma
- Cholangiocarcinoma

KEY POINTS

- Choosing the appropriate transarterial modality to aggressively treat malignancy while preserving function and lower portal pressures is central to patient selection for transarterial therapy.
- Current transarterial techniques have been proved safe and effective in advanced hepatocellular carcinoma and Child B cirrhosis. The posttreatment prognosis for Child A patients continues to improve.
- Many modern transarterial therapies cause minimal postembolization syndrome and are therefore routinely provided as outpatient procedures.
- Meticulous imaging follow-up and retreatment of new or recurrent lesions is imperative for ensuring maximum survival after any transarterial therapy.
- Current transarterial treatment options are safer and more effective than treatments of a decade ago. New techniques will continue this trend via patient-specific therapies in the future.

INTRODUCTION

Transarterial therapy for hepatocellular carcinoma (HCC) was first described in the medical literature in the late 1970s.¹⁻³ In the 1980s, several reports discussed the feasibility of combining embolic and chemotherapeutic agents.⁴⁻⁶ In 2002, 2 separate randomized controlled trials (RCTs) each showed longer survival by patients with HCC receiving transcatheter arterial chemoembolization (TACE) compared with those receiving best supportive care (BSC).^{7,8} Since these two RCTs, novel transarterial techniques have continued to be developed, and the management of patients with primary liver cancer has also continued to evolve.

The authors have nothing to disclose.

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The treatment of patients with HCC has become standardized as a result of several international guidelines.^{9–12} Fig. 1 describes a widely used algorithm that serves as the dominant general guideline for whether a patient undergoes transplantation, surgical resection, ablation, transarterial treatment, or systemic therapy. Because it is still a minority of patients with primary liver cancer who can be cured with resection or transplantation, percutaneous and transarterial interventional techniques remain essential in the management of patients with HCC and intrahepatic cholangiocarcinoma (ICC). Percutaneous techniques are addressed elsewhere in this issue by Clary and colleagues. This article describes current transarterial therapies in the management of primary liver cancers.

TRANSARTERIAL THERAPEUTIC OPTIONS

Table 1 lists the 5 main categories of transarterial therapy used in current practice. Transarterial therapies are usually performed under moderate sedation with independent radiology nursing supervision for most patients, including pulse oximetry, cardiac monitoring, and blood pressure monitoring. When warranted by a patient's comorbidities, procedures may be performed with light sedation or under deep sedation with anesthesiology assistance.

The wide availability of advanced cross-sectional imaging now frequently allows the interventionalist to forego aortic angiography, thus reducing x-ray exposure and contrast dose at the time of intervention. Focused sonographic examination in the interventional radiology suite often allows confirmation of hepatopetal portal flow, in many cases obviating routine superior mesenteric artery angiography.

Although conventional TACE (cTACE) has typically required inpatient admission for management of postprocedural pain, fever, and nausea, known as postembolization syndrome, many newer transarterial techniques cause less postembolization syndrome and are routinely performed as outpatient procedures.

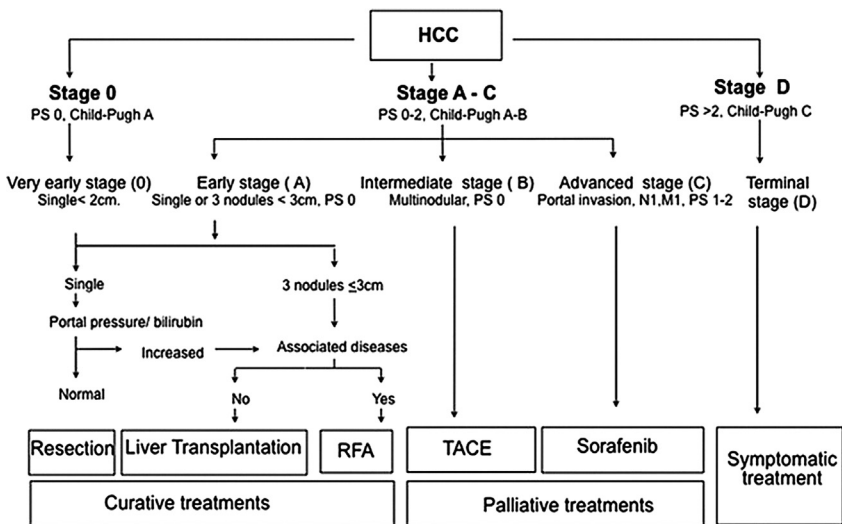


Fig. 1. Current guidelines for treatment of hepatocellular carcinoma by Breast Cancer Linkage Consortium (BCLC) stage. RFA, radiofrequency ablation. (From Bruix J, Sherman M, American Association for the Study of Liver Diseases. Management of hepatocellular carcinoma: an update. *Hepatology* 2011;53(3):1020–2; with permission.)

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