



# Effective Health Care

## Local Therapies for the Treatment of Hepatocellular Carcinoma and Unresectable Hepatic Metastases

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- Local therapies for the treatment of hepatocellular carcinoma (HCC) and unresectable hepatic metastases will go forward for refinement as a systematic review. The scope of this topic, including populations, interventions, comparators, and outcomes, will be further developed in the refinement phase.
- When key questions have been drafted, they will be posted on the AHRQ Web site and open for public comment. To sign up for notification when this and other Effective Health Care (EHC) Program topics are posted for public comment, please go to <http://effectivehealthcare.ahrq.gov/index.cfm/join-the-email-list1/>.

#### Topic Description

**Nominator:** Organization

**Nomination Summary:** The nominator is interested in the comparative effectiveness of local therapies

- 1) for the treatment of unresectable HCC
- 2) in the setting of HCC as a bridge to liver transplant or to downstage tumor prior to liver transplantation, and
- 3) for the treatment of unresectable hepatic metastases.

**1. Staff-Generated PICO:** Comparative effectiveness of the various liver-directed therapies for unresectable HCC

**Population(s):** Patients with unresectable primary HCC.

**Intervention(s):** A) ablation, including radiofrequency ablation (RFA), cryoablation, microwave ablation (MWA), percutaneous intralesional ethanol or acetic acid injection (PEI and PAI); B) embolization, including transarterial chemoembolization (TACE), transarterial embolization (TAE), radioembolization (RE); C) radiotherapy, including external beam using 3D conformal or intensity modulated radiotherapy, intraluminal brachytherapy, RE; D) liver-directed chemotherapy, including hepatic artery infusion (HAI) chemotherapy, TACE, drug-eluting beads.

**Comparator(s):** Comparisons of the above therapeutic interventions.

**Outcome(s):** Survival, quality of life, palliation, and safety/adverse events.

**2. Staff-Generated PICO:** Comparative effectiveness of the various liver-directed

therapies in the setting of HCC

**Population(s):** Patients with HCC who may qualify for liver transplantation.

**Intervention(s):** A) ablation, including radiofrequency ablation (RFA) and percutaneous intralesional ethanol (PEI); B) embolization, including transarterial chemoembolization (TACE) and radioembolization (RE)

**Comparator(s):** Comparisons of the above therapeutic interventions.

**Outcome(s):** Survival, tumor recurrence post-transplantation, prevention of tumor progression while on transplant list, and safety/adverse events.

**3. Staff-Generated PICO:** Comparative effectiveness of the various liver-directed therapies for unresectable hepatic metastases?

**Population(s):** Patients with unresectable hepatic metastases.

**Intervention(s):** A) ablation, including radiofrequency ablation (RFA), cryoablation, microwave ablation (MWA), percutaneous intralesional ethanol or acetic acid injection (PEI and PAI); B) embolization, including transarterial chemoembolization (TACE), transarterial embolization (TAE), radioembolization (RE); C) radiotherapy, including external beam using 3D conformal or intensity modulated radiotherapy, intraluminal brachytherapy, RE; D) liver-directed chemotherapy, including hepatic artery infusion (HAI) chemotherapy, TACE, drug-eluting beads.

**Comparator(s):** Comparisons of the above therapeutic interventions.

**Outcome(s):** Survival, quality of life, palliation, and safety/adverse events.

**Key Questions  
from Nominator:**

1. What is the comparative effectiveness of local treatments for unresectable liver metastases and unresectable, localized hepatocellular carcinoma?
2. Does the comparative effectiveness vary when lesions are unresectable due to anatomic reasons compared to those that are unresectable due to patients' comorbid illness?

## Considerations

- The topic meets all EHC Program selection criteria. (For more information, see <http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/>.)
- Although surgical resection is the preferred first-line treatment for HCC, approximately 80 percent of patients are not surgical candidates because of advanced stage disease, inadequate hepatic reserve to tolerate resection, tumors in unresectable locations, or medical co-morbidities resulting in poor surgical risk. For metastatic liver disease, local therapy may be used in an attempt to prolong survival and/or to palliate symptoms (e.g., pain or functioning neuroendocrine tumor manifestations). Although there is a wide range of options for local treatment of liver malignancies, there is currently a lack of clear evidence-based guidance on which techniques, either alone or in combination, offer superior patient outcomes. A systematic review may help to identify the most effective techniques in clinical practice and where gaps in the evidence remain.