**Appendix I. Evidence Table: Comparative Effectiveness of Imaging Strategies on Clinical Decisionmaking and Patient Outcomes (Cohort Studies)**

**Table I1. Characteristics of cohort studies of effectiveness of imaging strategies on clinical decisionmaking and patient outcomes**

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| **Author,****Year** | **Imaging Tests Evaluated** | **Details of Imaging Tests** | **Definition of a Positive Test on Imaging and Followup** | **Population Characteristics** | **Eligibility Criteria** | **Country, Setting** | **Number Approached, Eligible, Enrolled, Analyzed** |
| Chen MH, 2007[280](#_ENREF_280) | A: CEUSB: Conventional US in control group plus contrast-enhanced CT or MRI within one week of RFA | Contrast-enhanced USOperator: Performed by 3 experienced sonographersContrast: sulfur hexaflouride (Sonovue) administered as 2.4 ml bolus over 2 to 3 sTransducer frequency: 2.5 to 5.0 MHz (3 systems used)Contrast-enhanced CT64-slice spiral CT scanner used, other details NR; Images read by 3 experienced radiologistsMRI1.5 T MRI scanner, other details NR; Images read by 3 experienced radiologists | On CEUS, quick enhancement in arterial phase with fast washout in portal or parenchymal phase; repeat CEUS was done if first CEUS suspicious for new tumor; patients selected for RFA on basis of tumor size, number, position, and anatomic relationship with surrounding structures | Age (mean): 67.2a yearsMale: 62%Race: NR | Patients with HCC diagnosed on imaging or histology | China; enrolled patients, source not reported | 18 to 50 months |
| Chen MH, 2007 (2)[281](#_ENREF_281) | A: CEUS plus contrast (n=81) B: Ultrasound without contrast plus CT (n=86)  | Contrast-enhanced USOperator: 2 radiologists with experience in interventional US and CEUSContrast: sulfur hexaflouride (Sonovue) suspension (2.4 ml) administered through by bolus injection in 1-3 s Transducer frequency: approximately 2.5-5 MHz. MI used in CEUS imaging: 0.04 to 0.1.Contrast-enhanced CTTechnical information not reported | RFA was considered successful if no arterial and portal enhancement was seen in and around the tumor; ultrasound guided biopsy was performed to confirm the pathology of recurrent or new lesions; complete necrosis was defined by CECT examination as the absence of viable tissue in the treated tumor upon 1 year follow-up  | Age (mean): 60.2a yearsMale: 82%Race: NR | Patients with HCC meeting 5 criteria: no more than four lesions; tumor diameter less than 8 cm; nothrombosis in the main branch of the portal vein and no extrahepaticmetastases; prothrombin time ratio greater than 50% of normal and platelet count greater than 50,000/ml; biopsy proof of malignancy forat least one hepatic lesion  | China Setting: Not reportedDuration of follow-up: 1 year | Number approached and eligible: Not reportedNumber enrolled and analyzed: 167 (81 vs. 86) |

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| --- | --- | --- | --- | --- | --- | --- |
| **Author,****Year** | **Comparison Groups** | **Adjusted Variables for Statistical Analysis** | **Outcomes** | **Adverse Events** | **Funding Source** | **Risk of Bias** |
| Chen MH, 2007[280](#_ENREF_280) | Screening: CEUS plus contrast-enhanced CT (n=81) or MRI (n=11)Control: conventional ultrasound plus contrast-enhanced CT (n=74) or MRI (n=13) | No adjustments | Screening vs. controlLocal tumor progression rate, % (n)7.2 (6/83) vs. 18.3 (15/82); p=0.033; RRa, 0.40 (95% CI 0.16 to 0.87)New HCC rate, % (n)15.7 (13/83) vs. 35.4 (29/82); p=0.004; RRa, 0.44 (95% CI 0.25 to 0.79) Mean local progression-free survival (months)40.5 (SD 1.9) vs. 33.3 (2.2); p=0.015New tumor-free survival (months)38.1 (SD 2.0) vs. 26.4 (SD 2.0); p<0.001 | Not reported for screening | NR | High |
| Chen MH, 2007 (2)[281](#_ENREF_281) | A: CEUS plus contrast (n=81) B: Ultrasound without contrast plus CT (n=86)  | NR | CEUS vs. US without contrastDetection rates for small (≤2 cm) HCC lesions , % (n) 94.7 vs. 81.6: p =0.001 (36 vs. 31)Complete tumor necrosis rate 1 year after RFA: 92%(106/115) vs. 83% (93/112 lesions), p=0.036 | None reported  | NR | High |

CT = computed tomography; HCC = hepatocellular cancer; MRI = magnetic resonance imaging; NR = not reported; RFA = radiofrequency ablation; US = ultrasound

a Calculated