

中文題目：結合射頻灼燒術與經皮肝腫瘤純酒精注射治療肝癌差異探討-系統性與整合分析

英文題目：Combination of Radiofrequency Ablation and Percutaneous Ethanol Injection versus Radiofrequency Ablation Alone for Hepatocellular Carcinoma: A Systematic Review and Meta-Analysis

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Introduction: In the curative-intent category of hepatocellular carcinoma (HCC), resection remains the golden standard, and liver transplantation is also the first-line treatment for patients who fulfilled Milan criteria. Nevertheless, only minority candidate can undergo such surgical interventions and impaired liver function after procedure is usually anticipated; scarcity of liver donors and high tumor recurrence rate are also a concern in turns made radiofrequency ablation (RFA) or percutaneous ethanol injection (PEI) a better treatment of choice. Nevertheless, combination of these two treatments yield additional benefit still need larger sample size for discussion.

Aims: To compare the overall survival, local recurrence and safety of RFA-PEI combination therapy versus RFA monotherapy for HCC in different clinical settings.

Method: Design: systemic review and meta-analysis

Database searched:

We searched all eligible studies published before May 1, 2021 in the PubMed, Embase, Scopus, and China National Knowledge Infrastructure (CNKI). All relevant studies were collected. Meta-analyses were performed using Review Manager version 5.4 software

Search strategies:

Following searching terms including "Carcinoma, Hepatocellular"[Mesh], liver neoplasm, radiofrequency/thermal ablation, alcohol/ethanol injection, combination therapy and multiple ablation therapy. There were no language restrictions.

Study types: Only randomized clinical trials (RCTs) were included

Result: Eleven studies RCTs with 979 patients were included. Patient received RFA-PEI combination therapy was associated with significant improvement in 1-year OS (RR 1.11, 95% confidence interval [CI]1.03-1.19, $I^2 = 10\%$), 2-year OS (RR 1.25, 1.12-1.40, $I^2 = 0\%$), 3-year OS (RR 1.42, 1.11-1.83, $I^2 = 38\%$), 1 year local recurrence free (RR 1.2, 95% CI 1.01-1.42, $I^2 = 61\%$) and complete tumor necrosis (CTN) rate (RR 1.28, 95% CI 1.14-1.44, $I^2 = 37\%$). However, combining RFA-PEI

also associated with great risk of fever (RR 1.36, 95% CI 0.80 -2.30, $I^2 = 71\%$) and pain (RR 1.06, 0.81-1.38)

Conclusion: RFA-PEI improves OS, reduces LR, increases CTN, enables to treat larger tumors, and with similar complications except for pain and fever.

Keywords: hepatocellular carcinoma; liver tumor radiofrequency/thermal- ablation; percutaneous ethanol/alcohol injection; RFA; PEI