

Ultrasound-guided Percutaneous Microwave Ablation with Artificial Pleural Effusion for Liver Tumors in the Hepatic Dome

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Objectives

To evaluate the feasibility, safety, and efficiency of percutaneous microwave ablation (MWA) with artificial pleural effusion for liver tumors located in the hepatic dome.

Methods

112 sessions of artificial pleural effusion performed on 102 liver tumor patients were summarized and analyzed in our hospital. Among them, 31 hepatocellular carcinoma (HCC) patients treated by percutaneous MWA were selected as artificial pleural effusion group. The control group without artificial pleural effusion was matched with tumor size, tumor location and the histological grades of differentiation. The primary effectiveness rate, local tumor progression rate and tumor-free survival rate were compared.

Results

Artificial pleural effusion was achieved successfully in 110 of 112 sessions (98.2%), which helped to improve the visibility in 98.8% (82/83) and acquire safe puncture path in 96.3% (26/27). There were no statistic different between artificial pleural effusion group and control group in the primary technique effectiveness rate ($p=1.000$), the 1-, 2-, and 3-year local tumor progression rates ($p=0.669$), and the 1-, 2-, and 3-year tumor-free survival rates ($p=0.979$).

Conclusions

Percutaneous microwave ablation (MWA) with artificial pleural effusion could be a feasible, safe, and effective technique for liver tumors located in the hepatic dome.