



**Service Priorities and Programmes**  
**Electronic Presentations**

**Convention ID:** 1011

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**Effectiveness of percutaneous microwave ablation of hepatocellular carcinoma – Two years' experience in a tertiary referral centre**

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**Keywords:**

microwave ablation

hepatocellular carcinoma

**Introduction**

Queen Elizabeth Hospital is one of the pioneer public hospitals in Hong Kong to offer percutaneous microwave ablation (MWA) to patients suffering from hepatocellular carcinoma (HCC) - a minimally-invasive technique in treating lesions close to sizable intrahepatic vessels which has known compromised complete tumour ablation rate by conventional radiofrequency ablation (RFA).

**Objectives**

To assess the safety and efficacy of percutaneous MWA for HCC.

**Methodology**

During a two-year period, from January 2012 to December 2013, 17 patients (female: 4, male: 13; mean age 62.3) received percutaneous MWA for HCC that were close to sizable intrahepatic vessels. Follow-up CT or MRI was performed to assess complete ablation rate and treatment response.

**Result**

A total of 26 HCC lesions were treated (median size 1.8cm; range 0.4 – 3), total number of sessions performed was 30. Technical success rate was 100%. Complete ablation rate was 92.3%. Cumulative local tumour progression rate at ablated site at 3-month follow-up was 11.5%; at 6-month follow-up was 15.4%. Repeated ablation was performed in 4 patients when subsequent imaging showed viable tumour, average time from first MWA to second MWA procedure was 7.2 months. All repeated ablations were technically successful. A group of patients received immediate post-ablation dynamic CT with arterial phase to confirm the absence of arterial hyperenhancement before the reversal of general anaesthesia. The complete ablation rate at 1-month did not differ in patients who received immediate post-ablation dynamic CT versus those who did not ( $p = 0.409$ ). The mortality rate was 0% at 30 days. There were no major complications. Minor adverse events included transient low-grade fever in 3 patients (17%) and self-limiting haemoperitoneum in 2 patients (12%), and were managed conservatively. Percutaneous MWA is a safe and effective local ablative treatment for HCC in close proximity to sizeable intrahepatic vessels.

Moreover, our data suggests that under the care of experienced interventional radiologists, a second-set of dynamic CT performed immediately post-ablation does not increase the complete tumour ablation rate. Without the need of this post-ablation set of CT, the general anaesthesia duration, CT dosage and operational costs could be reduced. This can also result in better manpower and CT resources utilization.