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Hepatocellular Carcinoma Treated with Microwave Ablation Prior to Liver Transplantation

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SI/CTR Abstract

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Hepatocellular Carcinoma Treated with Microwave Ablation Prior to Liver Transplantation

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Introduction: Ablation is a minimally invasive procedure that limits local liver tumor progression and prolongs patients' transplantation eligibility. Microwave ablation (MWA) utilizes higher temperatures than the standard of care, radiofrequency ablation (RFA), which increases efficiency. Meta-analyses compared MWA with RFA for the treatment of HCC and showed similar efficacy and safety between these modalities. However, limited pathologic data exists determining whether explanted tumors remained viable after MWA.

Methods: Our database was reviewed retrospectively for patients with HCC who underwent MWA prior to liver transplantation between 2013 and 2019. Patient demographics, etiology of disease, tumor size, procedure details, bilirubin, MELD, and Child-Pugh score were reviewed. Tumors were classified as viable or nonviable based on pathology. Imaging and clinical follow-up were available for surveillance and post-transplant.

Results: 29 patients (23 males, 6 females) with 40 tumors underwent MWA. The average patient age was 60 years. The mean tumor size was 2.2 cm (range 1-3.7). Twenty-six patients were alive at follow-up. Pathological analysis showed 38 of the 40 tumors ablated to be non-viable at explant. Imaging prior to transplant reported one

case with recurrent tumor at the ablation site and another case as equivocal. No cases of metastatic HCC were identified by imaging post-transplant.

Discussion: Previous studies have not included this pathologic data. Determining tumor viability provides valuable information regarding whether tumors are likely to recur locally, even after transplantation. These results suggest that MWA is an effective treatment of small HCC prior to transplant with a low incidence of local tumor recurrence.