

## Format for ANSWERING REVIEWERS

August 13, 2015



Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 19238-Review.doc).

**Title:** Microwave ablation of hepatocellular carcinoma

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**Name of Journal:** *World Journal of Hepatology*

**ESPS Manuscript NO:** 19238

The manuscript has been improved according to the suggestions of reviewers:

1 Format has been updated

2 Revision has been made according to the suggestions of the reviewer

According with the reviewers, we have focused some other clinical application of microwave thermal ablation; particularly, we have explained the role of MWA in surgery, especially regarding laparoscopic approach, and its role in HCC treatment as bridging therapy to liver transplantation.

MWA is also performed through a laparoscopic approach. Hepatic lesions close to the gastrointestinal tract, gallbladder and bile ducts can be safely treated in this way. Laparoscopic MWA can also be a viable therapeutic option for patients unsuitable for hepatic resection due to impaired liver function or concurrent comorbidities. In a prospective cohort study, Cillo et al. treated 50 HCC in 42 patient with laparoscopic MWA.

They obtained a complete ablation rate of 100% in < 3.0 cm tumors and of 80% in > 3.0 cm tumors. The two-year survival rate was 81% and the two-year recurrence rate was 55% with no peri-operative mortality and a median post-operative hospital stay of three days.

Cillo et al. have recently described an innovative use of laparoscopic MWA in 2 patients affected by multiple liver metastases and a large HCC, respectively. The Authors developed a novel variation to the staged hepatectomy in which laparoscopic portal vein ligation was associated to laparoscopic MWA on the future hepatic transection plane. This modified procedure allows a complete hypertrophy of the non-occluded future liver remnant preventing the development of interlobar portoportal shunts that impair the remnant liver hypertrophy.

Image-guided tumor ablation can also have a role in HCC “bridge” to orthotopic liver transplantation (OLT), reducing the risk of list drop-out and in HCC “down-staging” to fit patients into OLT criteria. Particularly, Zanussi et al. reported that out of 6 cases of HCC patients which underwent laparoscopic MWA before OLT, 4 had received it as a bridge to OLT to prevent neoplastic disease diffusion, and 2 as HCC down-staging to fit into OLT criteria. In all 6 cases no peritoneal or nodal HCC macroscopic and microscopic diffusion was observed intraoperatively at the time of laparotomy for OLT. Gringeri et al. reported 1 case of laparoscopic MWA of a single small HCC on liver graft. A complete ablation of the tumor was achieved and after 24 months the patient was still free from local or distant recurrence, showing that MWA can be safely and effectively applied to treat HCC in liver transplant recipients.

3 References and typesetting were corrected

Thank you again for publishing our manuscript in the *World Journal of Hepatology*

Sincerely yours,

Guido Poggi