

## Editorial

# Histopathological Analysis of the Tissue Extracted on the Expandable Electrodes after Radiofrequency Ablation of Hepatocellular Carcinoma is Important to Predicting Local Recurrence

**Ishikawa T\***

Department of Gastroenterology and Hepatology, Saiseikai Niigata Daini Hospital, Japan

**\*Corresponding author:** Toru Ishikawa, Department of Gastroenterology and Hepatology, Saiseikai Niigata Daini Hospital, 280-7 Teraji, Niigata 950-1104, Japan**Received:** May 29, 2016; **Accepted:** June 07, 2016;**Published:** June 09, 2016

## Editorial

The study by me and my colleagues our study in the May 2012 issue of Internal Medicine reported that the histopathology of the tissue adhering to the radiofrequency ablation (RFA) probes used for hepatocellular carcinoma treatment can predict local recurrence [1].

RFA was first used for the treatment of HCC in humans in 1993 [2] after extensive animal studies [3,4]. RFA with a percutaneously inserted electrode can ablate tumors more completely than other locoregional treatments, and can thus reduce the rate of local recurrence [5,6].

Complete ablation of HCC is required for prevention of local recurrence and a good prognosis [7]. Therefore, local recurrence after successful ablation of HCC using RFA is an important issue. Tissues adherent to the radiofrequency probe after ablation can be examined pathologically and may show coagulation necrosis [8]. Given the fact that the histopathologic analysis of tissues adhering to the RFA probe after the procedure is feasible [8] and that complete necrosis can be immediately detected after the treatment [8], the objective of the our study was to assess the value of this post-procedural histological analysis as a possible predictor of local recurrence.

We found that from the HCC tumors 3 cm in size, viable tissue was present in 6 (2.1%) of 284 specimens, and the local recurrence rates after 1 and 2 years of follow-up were 6.7% and 11.2%, respectively [1]. Local recurrence developed significantly earlier in the viable tissue group. The recurrence rate was not significantly different based on whether transcatheter arterial chemoembolization was performed [1].

Herein, we would like to raise the following comments: In our study [1], additional aggressive treatment (such as embolization, radio-embolization, local arterial chemotherapy or systemic treatment) for patients with viable tissue can therefore improve the overall survival if histopathology of the tissue adhering to the radiofrequency ablation is viable. This approach may improve the clinical outcomes in patients with HCC who undergo treatment with RFA. Further prospective trials concerning the histological analysis of RFA are needed.

## References

1. Ishikawa T, Kubota T, Abe H, Nagashima A, Hirose K, Togashi T, et al. Histopathology of tissue adherent to radiofrequency ablation with multiple tine expandable electrodes used for hepatocellular carcinoma predicts local recurrence. Internal Medicine. 2012; 51: 2683-2688.
2. Rossi S, Fornari F, Buscarini L. Percutaneous ultrasound guided radiofrequency electrocautery for the treatment of small hepatocellular carcinoma. J Interv Radiol. 1993; 8: 97-103.
3. Rossi S, Fornari F, Paties C, Buscarini L. Thermal lesions induced by 480 KHz localized current field in guinea pig and pig livers. Tumori. 1990; 76: 54-57.
4. McGahan JP, Browning PD, Brock JM, Tesluk H. Hepatic ablation using radiofrequency electrocautery. Invest Radiol. 1990; 25: 267-270.
5. Lencioni RA, Allgaier HP, Cioni D, Olschewski M, Deibert P, Crocetti L, et al. Small hepatocellular carcinoma in cirrhosis: randomized comparison of radiofrequency thermal ablation versus percutaneous ethanol injection. Radiology. 2003; 228: 235-240.
6. Shiina S, Teratani T, Obi S, Sato S, Tateishi R, Fujishima T, et al. A randomized controlled trial of radiofrequency ablation with ethanol injection for small hepatocellular carcinoma. Gastroenterology. 2005; 129: 122-130.
7. Horiike N, Iuchi H, Ninomiya T, Kawai K, Kumagi T, Michitaka K, et al. Influencing factors for recurrence of hepatocellular carcinoma treated with radiofrequency ablation. Oncol Rep. 2002; 9: 1059-1062.
8. Sofocleous CT, Klein KM, Hubbi B, Brown KT, Weiss SH, Kannarkat G, et al. Histopathologic evaluation of tissue extracted on the radiofrequency probe after ablation of liver tumors: preliminary findings. Am J Roentgenol. 2004; 183: 209-213.