EUS-guided radiofrequency ablation of a hepatocellular carcinoma of the liver

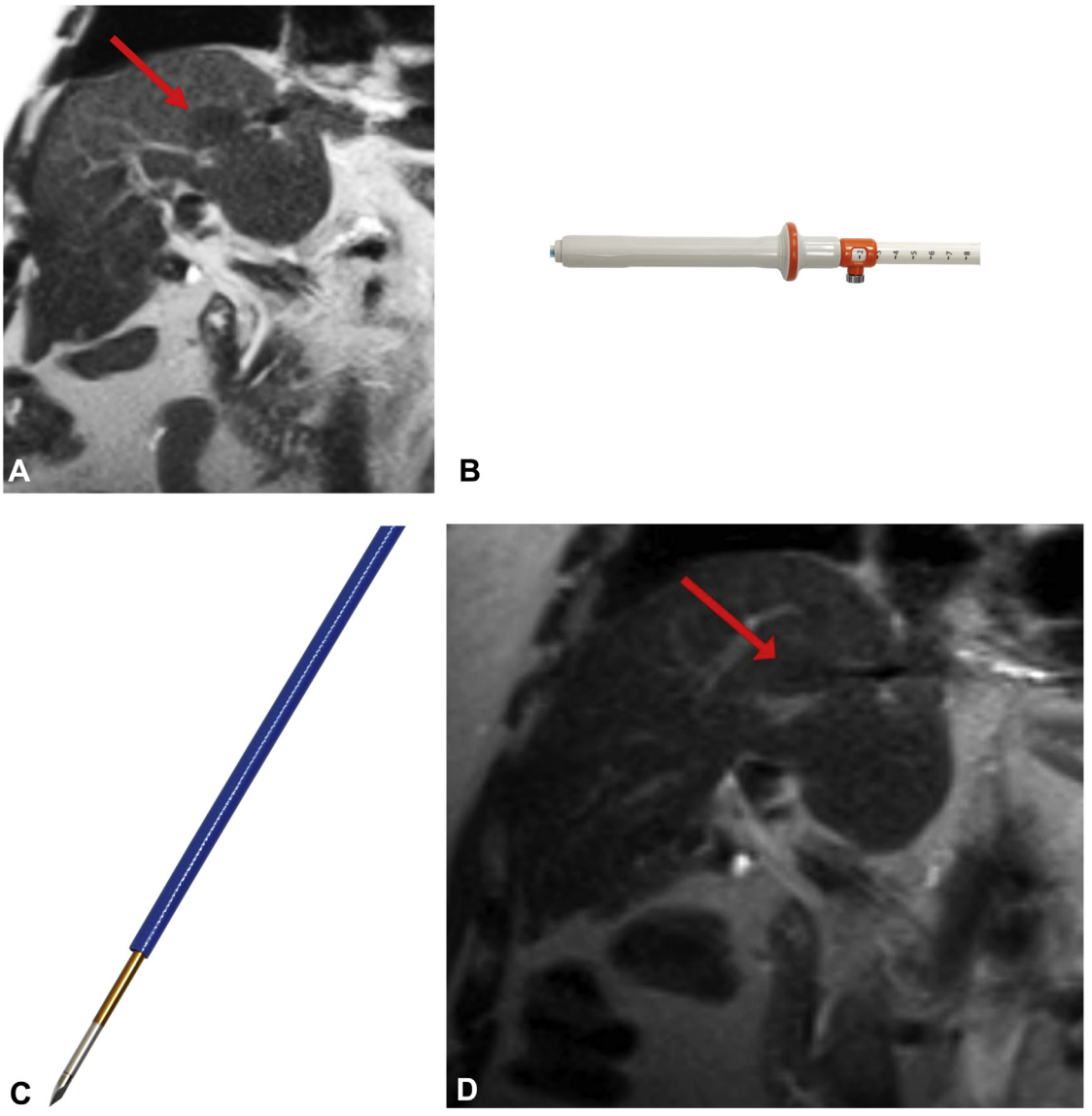

Figure 1. A, MRI showing 25- × 20-mm hypovascular lesion of the III liver segment *(arrow)*. **B, C,** The EUS 19-gauge 10-mm-long needle for EUS-guided radiofrequency ablation. **D,** Abdominal MRI 1 month after the procedure showing complete disappearance of lesion in the III liver segment.

Percutaneous and intraoperative radiofrequency ablations (RFA) of hepatocellular carcinoma (HCC) are widely used treatment methods. EUS-guided RFA has recently been used for pancreatic tumors, whereas, to our knowledge, there are no reports of EUS-guided RFA for HCC. We present the case of a 75-year-old man with hepatitis C virus–related cirrhosis who, in May 2015, underwent percutaneous RFA for an HCV-related HCC in the VIII liver segment. The patient was in good clinical condition until June 2017, when a follow-up abdominal MRI showed a 25- × 20-mm hypovascular lesion of the III liver segment (Fig. 1A).

Written transcript of the video audio is available online at www.VideoGIE.org.

At evaluation by a multidisciplinary board, percutaneous RFA was not taken into account because of the difficult approach to the III liver segment with that technique. Therefore, EUS-guided RFA of the lesion was planned (Video 1, available online at www.VideoGIE.org). The EUS-RFA procedure was done with an Olympus GF-UCT180 (Olympus, Tokyo, Japan) EUS endoscope and an EUS-guided RFA 19-gauge 10-mm-long needle (Starmed-Taewoong Medical, Seoul, South Korea) (Figs. 1B and C) for EUS-guided RFA. After the lesion was punctured with the RFA needle, a 30-W per 3 to 8 seconds monopolar electric current was delivered under direct EUS control directly into the principal lesion and into the satellite lesions. This was done multiple times until all areas of the lesions had acquired echogenic changes.

No immediate adverse events were registered, and the patient was discharged the following day. Abdominal MRI 1 month after the procedure showed evidence of complete disappearance of the lesion in the III liver segment (Fig. 1D). At the follow-up visit, the patient was in good clinical condition.

To our knowledge, this is the first report of EUS-guided RFA of HCC. The treatment was technically and clinically successful. This treatment could be a good therapeutic option for patients who are not candidates for percutaneous RFA because of a difficult approach. The safety and efficacy of this treatment should be evaluated in a larger series because major adverse events such as liver abscess, bile leaks, and bleeding might occur.

DISCLOSURE

Dr Costamagna is a consultant for Cook Medical. All other authors disclosed no financial relationships relevant to this publication.

Fabia Attili, MD, PhD, *Fondazione Policlinico Gemelli, Roma, Italy,* **Ivo Boškoski, MD, PhD,** *Fondazione Policlinico Gemelli, Roma, Italy, Institut Hospitalo-Universitaire, Institut de Chirurgie Guidée par l'Image, Strasbourg, France,* **Vincenzo Bove, MD,** *Catholic University of Rome, Roma, Italy,* **Pietro Familiari, MD, PhD,** *Fondazione Policlinico Gemelli, Roma, Italy,* **Guido Costamagna, MD, FACG,** *Fondazione Policlinico Gemelli, Roma, Italy, Catholic University of Rome, Roma, Italy, Institut Hospitalo-Universitaire, USIAS Strasbourg University, Strasbourg, France*

https://doi.org/10.1016/j.vgie.2018.02.006