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SOCIETY OF INTERVENTIONAL RADIOLOGY

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CONTROL ID: 998917

TITLE: Combined percutaneous approach with radiofrequency ablation and ethanol injection with a multi-pronged needle for the treatment of large hepatocellular carcinoma: interim analysis of a prospective, multicenter study

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PRESENTATION TYPE: Original Scientific Research - Oral or Poster

CURRENT CATEGORY: Liver Cancer: Ablation

KEYWORDS: hepatocellular carcinoma, radiofrequency ablation, ethanol injection.

ABSTRACT BODY:

Purpose (Original Scientific Research)

Learning Objectives (Educational Exhibit): To investigate the efficacy and safety of a combined percutaneous approach with radiofrequency ablation (RFA) and ethanol injection with a multi-pronged needle for the treatment of large hepatocellular carcinoma (HCC).

Materials and Methods (Original Scientific Research)

Background (Educational Exhibit): Forty-two patients (37 males and 5 females; mean age, 57.4 years; range, 30-81 years) with 45 large (3.0-7.0 cm) HCC tumors were enrolled in a prospective, multicenter, single-arm clinical trial. The longest diameter of the tumors was 3.8 ± 0.9 cm. Using ultrasound guidance, ethanol injection was performed in the first place by using a multi-pronged needle (Quadra-Fuse; Rex Medical, Conshohocken, PA) until the whole tumor appeared completely perfused on the ultrasound image. RFA was performed immediately thereafter by using a standard protocol. The procedure was performed under conscious sedation. Initial tumor response was assessed on 1-month CT by using modified Response Evaluation Criteria in Solid Tumors (mRECIST) for HCC. Follow-up protocol included imaging examinations at 3-month intervals

Results (Original Scientific Research)

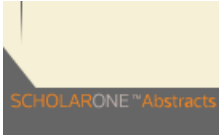
Clinical Findings/Procedure Details (Educational Exhibit): The average volume of injected ethanol was 14.8 ± 4.6 ml (range, 9-30 ml). The average number of RFA electrode insertions was 1.7 ± 0.8 (range, 1-4). The mean size of the ablation zone, as measured on 1-month CT scans, was 4.3 ± 0.8 cm (range, 2.9 - 6.7 cm) \times 5.2 ± 1.0 cm (range, 3.6 - 8.6 cm). The rate of initial local complete response (CR) according to

mRECIST was 95% (43/45). After a mean follow-up period of 3.0 ± 0.8 months (range, 1-13 months), local tumor progression was observed in 3 (7%) of the 45 tumors with initial local CR. Therefore, the rate of sustained local CR was 89% (40 of 45). New intrahepatic lesions developed in 12 patients remotely from the treated area. Major complications were observed in 2 patients (1 liver abscess, 1 massive hemoperitoneum). Minor complication included asymptomatic intraabdominal hemorrhage (n = 4), pleural effusion (n = 3), and ascites (n = 1). No treatment-related death was observed.

Conclusion (Original Scientific Research)

Conclusion and/or Teaching Points (Educational Exhibit): Results of this interim analysis suggest that treatment of large HCC with a combined percutaneous approach including RFA and ethanol injection has acceptable safety profile and is associated with a high rate of sustained local CR.

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