Chirurgia (Bucur). 2014;109(4):500-506

Radiofrequency Ablation Device Assisted Liver Resection for Hepatocellular Carcinoma

N. Vlad[1], C. Gouillat[2], R. Moldovanu[1,3], C. Lupașcu[1], Ș. Georgescu[1], E. Târcoveanu[1]
[1]First Surgical Unit, Department of Surgery, "Gr.T. Popa" University of Medicine and Pharmacy Iaşi, Romania
[2]Digestive and General Surgery and Liver Transplant Unit, Croix-Rousse Hospital, Lyon, France
[3]Department of Surgery and Oncology, Les Bonnettes Hospital, Arras, France

Abstract

The present study aim was to evaluate radiofrequency (RF)-assisted liver resection for hepatocellular carcinoma (HCC).

Patients and Methods: 35 consecutive patients were enrolled in this study. A Habib®4X RF ablation device (RFAD) was used for liver resection. The patients were divided into two groups: in group A (45.7%; n=16) liver resection was performed using the RFD, whereas in group B (54.3%; n=19), liver resection was performed without RFD. The data were analysed for statistical significance.

Results: The study population had a male/female ratio of 25/10 and a mean age of 62.6±11.6 years old. The mean overall tumor volume was 161.8±35.5 mL and there were no differences in tumor volume between groups. The operative time and intraoperative blood loss were lower in group A, but without statistical significance [132.5±61.5 vs 167.9±46.3 mins, (P=0.061) and 459±342 vs 716 ± 648 mL (P=0.135)]. No differences were reported between the two groups in operative accidents (P=0.508) and postoperative morbidity (P=0.782); a higher rate of late postoperative complications was found in group A (56.3% vs. 16.7%, P=0.016). The overall postoperative mortality rate was 2.8%. Local recurrence was noted in 32.4%. The three-year cumulative survival rate was 60%.

Conclusions: RFAD allows liver resection with low postoperative mortality and morbidity rates; RFD tends to decrease the operative time and blood loss.

Abbreviations: AFP - alpha fetoprotein, ALT - alanine amino transferase, ASA - American Society of Anesthesiologists, AST - aspartate amino transferase, CT - computed tomography, HCC - Hepatocellular carcinoma, MELD - Model for End-Stage Liver Disease, RF – Radiofrequency, RFAD - Radio-frequency ablation device

Key words: bloodless hepatectomy, hepatocellular carcinoma, liver resection, radiofrequency ablation

Corresponding author: Radu Moldovanu MD, PhD
Department of Surgery and Oncology, Les Bonnettes Hospital
2 Rue Dr. Alfred Forgeois, 62012, Arras, France
E-mail: rmoldovanu@gmail.com