

Aggressive Recurrence after Radiofrequency Ablation of Liver Neoplasms

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SUMMARY

Radiofrequency ablation is considered safe for inoperable liver neoplasms; with small lesions the rate of success is very high, the local recurrence is marginal and generally suitable for a retreatment. We have little information about the possibility of rapid regrowth of the tumor after a response judged as complete.

We present four patients, affected by primary (3 patients) and metastatic (1 patient) uninodular cancer. All the lesions were small, superficial and well suited for surgery, but were treated by radiofrequency ablation elsewhere. The early instrumental evaluations stated a complete result in all the patients. Cancer regrowth was diagnosed at 3, 4, 6 and 12

months after radiofrequency ablation, always starting from the treated lesion. In case 1 the whole right lobe was involved together with a contralateral multinodular recurrence; cases 2 and 3 presented an extensive liver and parietal wall involvement; while in the fourth patient a diffuse biliary colonization was observed. Only 1 patient was suitable for surgery; the others died 6, 2 and 4 months, respectively, after recurrence.

Recurrence after radiofrequency ablation may show an aggressive evolution precluding any possibility of cure. Radiofrequency ablation must not be considered a suitable alternative to surgery in patients with a low surgical risk.

KEY WORDS:

Liver neoplasm;
Radiofrequency ablation;
Hepatic cancer recurrence

ABBREVIATIONS:

Radiofrequency Ablation (RFA);
Percutaneous Ethanol Injection (PEI);
Computed Tomography (CT);
Hepatitis C Virus (HCV);
Hepatocellular Carcinoma (HCC);
Hepatitis B Virus (HBV);
Alpha-Fetoprotein (AFP);
Magnetic Resonance Imaging (MRI)

INTRODUCTION

Surgery is considered as the only known curative treatment for malignant tumors of the liver. Nonetheless, especially for primary cancer, other therapeutic options will be validated not only for palliative reasons, but also with a curative intent. Many reports suggest the same life expectancy both for surgery and for percutaneous ethanol injection (PEI) (1,2) or radiofrequency ablation (RFA) (3). Thanks to a lower immediate risk, these non-surgical procedures have been considered as first choice treatment even for patients suitable for liver resection (3).

Experience in the treatment of liver cancer by RFA is quite recent, therefore there is a lack of data concerning long-term results after RFA. In the reported experiences follow-up is generally short and the therapeutic effect mostly assessed by computed tomography (CT) evaluation at 1-3 months rather than with the help of histological analysis (4,5).

At this evaluation the recurrence of cancer after RFA is generally described as a thin area of vital tissue surrounding the necrotic area and is not considered as a definitive treatment failure, it being possible to complete the therapeutic effect with subsequent sessions (4,6).

No report clearly claims the possibility of an ominous evolution consequent to an incomplete response to local treatment.

Neoplastic liver lesions are frequently observed

and treated in our surgical department as there is a particularly high incidence of this neoplasm in our province (7).

Patients are referred to our department for the first treatment or after failure of primary treatments performed in other departments or institutions.

Some recent and significant observations of small lesions treated by RFA and followed by unusually rapid and aggressive recurrence suggest the need to describe these events and discuss the consequent physiopathological and clinical implications.

CASE REPORTS

Case 1

A 68-year-old woman, treated in 1994 for a retroperitoneal leiomyosarcoma; three years later echography showed a hepatic metastasis measuring 2.5cm located in the 7th segment. At CT no other recurrence was noted either in the liver, with normal morphology and function, or in the retroperitoneal area (**Figure 1a**). The patient was proposed for a cycle of percutaneous RFA. The first CT, two months after RFA, showed no enrichment after contrast injection, thus suggesting a complete therapeutic result. Multiple small recurrences at the margin of the necrotic area were suspected 6 months later (**Figure 1b**) and were treated with another cycle of RFA. Again, the one-month control CT showed complete necrosis, the ablated zone being larger than the resid-

