CORRESPONDENCE

Thermal Ablation of Renal Tumors: Indications, Techniques and Results

by PD Dr. med. Marc Regier, Prof. Dr. med. Felix Chun in issue 24/2015

Part of the Treatment Strategy in Other Countries

It is encouraging that finally an article about thermal ablation of renal tumors has been published in *Deutsches Ärzteblatt* as in Germany, unlike in other countries, this treatment option has scarcely been adopted in clinical practice due to the resistance of the primary surgical treatment providers. However, it is by no means a “novel” technique since percutaneous ablation has been an integral part of the management concept in other countries for more than 10 years (1). My experience has taught me that in Germany the indication for percutaneous ablation is restricted to patients who either insist to have this treatment done or are high-risk patients for surgery (for example, due to imminent renal failure along with a tumor in a solitary kidney after partial resection). Let us hope that in the delayed S3-guideline of the German Cancer Society (*Deutsche Krebsgesellschaft*, DKG) thermal ablation will be recommended as the first-line treatment for small renal cell carcinoma (RCC) with good percutaneous access and not only as an intervention for difficult-to-treat patients.

In Figure 1, the authors show a heat shield protecting the colon from thermal necrosis created by interstitial instillation of 5% dextrose solution. For reasons related to the physical properties of the material (the thermal conductivity of gas [ambient air, CO₂] is approximately 20 to 30 times lower), instillation of 5% dextrose solution should only be considered as the method of second choice. In contrast to gas-filled spaces, the thermal insulation effect of interstitial dextrose or saline solution cannot be reliably evaluated using imaging technologies, and continuous thermal monitoring of all parts of adjacent critical structures is not practical (2). Instillation of gas for organ protection during thermal ablation procedures performed to treat renal cell carcinoma has already been proposed in 2004; this technique has been successfully used by several working groups and myself at numerous occasions (3).

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Univ.-Doz. Dr. med. Gerd Reuther
Radiologist,
Saalfeld, Germany
gerd.reuther@gmx.de

Conflict of interest statement

The author declares that no conflict of interest exists.

In Reply:

We agree with Reuther's view that by international standards the indication for thermal ablation is more restrictive in Germany and surgical resection is often preferred. The data compiled in our review (1) reflect the current discussion on this topic and suggest that the role of thermal ablation in the S3 guideline will no longer be restricted to that of an alternative treatment option, for instance in patients with an increased anesthetic risk.

The topicality of the discussion allows us to regard thermal ablation as a novel technique since the follow-up period of 15 years is very limited compared with the 150-year history of surgical nephrectomy; furthermore, long-term outcomes observed 5 to 10 years after thermal ablation have only been published recently.

There are a number of effective techniques available to prevent thermal injury to adjacent structures. Apart from the commonly used hydrodissection (2), insufflation of a gas is considered an effective method to create a heat shield. In addition, the use of angioplasty balloons as an ideal method to prevent collateral thermal damage has been reported in recent studies (3). Targeted randomized controlled studies evaluating the various options to prevent thermal ablation-related heat damage are needed to identify the most effective technique. Currently still in the design stage, such studies can be expected to be initiated in the near future.

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PD Dr. med. Marc Regier

Klinik und Poliklinik für Diagnostische und Interventionelle Radiologie
Zentrum für Radiologie und Endoskopie
Universitätsklinikum Hamburg-Eppendorf
mregier@uke.de

Prof. Dr. med. Chun

Zentrum für operative Medizin,
Klinik und Poliklinik für Radiologie,
Universitätsklinikum Hamburg-Eppendorf

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