Another Brick in the Wall: Further Evidence Supporting the Efficacy of Thermal Ablation

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Resection, thermal ablation and radiation therapy of colorectal lung metastases are common clinical practices and recommended by the ESMO (European Society of Medical Oncology) guidelines in oligometastatic patients although the proof of clinical benefit on overall survival remains unclear. Some randomized control trials like the PulMiCC Trial aimed at evaluating this benefit but failed to enroll patient [1]. Clear benefits in terms of delaying chemotherapy [2] and low invasiveness of thermal ablation made the technique popular among referring medical oncologist and patients.

A criticism of the scientific community on thermal ablation or stereotactic body radiation therapy (SBRT) is the absence of a histological proof of the treated lung nodule as metastatic, such as an additional transthoracic needle procedure a few days before treatment, or a biopsy performed immediately before radiofrequency ablation (RFA). Biopsy during thermal ablation can be challenging or can alter the quality of treatment; the challenges are to puncture a sub-centimetric metastasis, while it is easy to encompass it in an ablation volume, the alteration in quality of treatment can occur when a biopsy is responsible for bleeding, then blurring the target nodule and finally jeopardizing accurate thermal ablation probe placement and hence treatment success. Biopsy performed immediately after ablation was reported as a possible surrogate for pre-ablation biopsy, avoiding hampering the accuracy of the initial RF probe placement; but it has its limitations,

namely the determination of cancer subtype and origin by molecular biology [3].

In this issue of CVIR, Zhong et al. [4] demonstrated a five-year overall survival (OS) of 44.1% and local tumor control of 90% in 60 patients treated with RFA for colorectal lung metastasis. These results are very much in accordance with the previously published, larger study including 191 colon cancer patients and 102 rectum cancer patients with, respectively, 56% and 49.6% 5-year OS and a rate of local tumor control of 89.4% [5]. Inclusion criteria of the study by Zhang et al. include histological confirmation from either surgical resection or percutaneous image-guided biopsy at the time of or prior to ablation of at least one lung lesion. This paper is important because it confirms the efficacy of thermal ablation in a “biopsy-proven population.” Of course, we could argue that biopsy of every single lesion treated with thermal ablation might have more impact, but, as explained earlier, this is impossible to obtain in real life. In the era of modern and functional imaging, we have to admit that imaging can be accepted for treatment decision making in case of known primary disease, size changes in lung nodules that follow the efficacy or non-efficacy of chemotherapy, PET-CT validation. And that is how multidisciplinary tumor board takes decisions on local or systemic treatments. Of course, a biopsy has to be performed in case of a doubt over imaging, or when molecular biology diagnostics is needed to decide about new therapies.

Ten years after the Ontario Mont Sinai group presented histologic support for RFA as an effective treatment for selected pulmonary metastases, showcased on the small series of 9 patients that received pulmonary resection after thermal ablation [6]. Zhong et al. place another brick in the wall of the evidence of local efficacy of thermal ablation.

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Compliance with Ethical Standards

Conflict of interest No conflicts of interest to declare.

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