



## Is operators' experience more important than the ablation technique in image-guided thermal ablations?

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## Is operators' experience more important than the ablation technique in image-guided thermal ablations?

Sir,

We have read with interest the letter by Park et al. regarding our article recently published in International Journal of Hyperthermia entitled "Benign thyroid nodules treatment using Percutaneous Laser Ablation (PLA) and Radiofrequency Ablation (RFA)" [1]. Coming from one of the most expert group in the field of thyroid ablation, their comments are highly appreciated.

First of all Park et al. correctly underlined how thermal ablation treatment is reserved to cases of solid or predominantly solid benign nodules, as generally ethanol injection is sufficient to achieve clinical result in cystic or predominantly cystic nodules [2]. Subsequently, they offered their comments on two critical aspects of our work: the long experience of the group in thermal ablation and the use of contrast-enhanced ultrasound (CEUS). Both factors should be taken into account when considering our results. On the one hand, experience of the operator might affect the result of treatment [3]. On the other hand, application of intraoperative CEUS might increase the detection of incomplete treatment and suggest the need of immediate retreatment [4–6]. Furthermore, Park et al. pointed out how in our series initial volume of treated nodules was different in the two groups. This of course might have affected our results. However, we note that we used the percentage reduction of nodules to assess our outcome rather than using the absolute values, thus somewhat tempering this limitation.

The need of comparing the two techniques when performed by the same operator derived from the difficulty of comparing the two modalities from the data in the literature. This is due to the fact that generally one centre performs only one technique and operator experience might have had a non-negligible influence in the different studies published. Particularly, operators with low experience in image guided thermal ablations might consider laser ablation an easier technique, as it generally does not require multiple repositioning of the electrode and is performed with small needle guidance. This is one of the reasons why several endocrinologists preferred to start performing thyroid nodules ablation with laser. The lower experience (not only in thyroid ablation, but in interventions and image guided treatment overall) might have been a reason for slightly worse results achieved by laser in some studies [7]. In a totally different setting, when analysing the results of different ablative techniques applied to the treatment of breast tumours [8], we had the occasion to note how several authors had a strong fear of damaging surrounding structures, being highly surprised by the fast and sudden

gas development occurring during thermal ablation. The reason for that was probably that several authors had never performed any other image guided ablation before. Although claiming to be highly experienced in breast imaging or biopsies, they are not expert in thermal ablation. Thus, would really an endocrinologist be as good as an abdominal surgeon in performing a total thyroidectomy, even though none of them have ever performed this intervention before? Does the background formation not really matter at all when dealing with image-guided ablations? When dealing with image-guided ablations, we are strongly convinced that the correct image guidance, the optimal environment, and the experience of the operator are much more important than the ablative device used. However, the differences among ablative techniques should be known to be able choosing the best modality case by case. In our opinion, laser seems to provide some advantages over RFA due to the small calibre of the needle and the higher precision when dealing with small lesions in the neck, such as lymph nodes [6,5], even though in experienced hand they can be treated successfully with RFA [9]. On the contrary, as highlighted by our results, laser and RFA might be equivalent in the treatment of benign thyroid nodules when performed by operators with the same experience.

In conclusion, we agree with Park et al. comments and we highlight the need of further studies in this field, particularly focussing on the importance of the experience of the operator, also in order to provide in the future clearer rules to be followed for the application of these techniques. This would be crucial to provide the best treatment possible to the patients, performed with the best technique by properly trained physician.

### Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

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