

## Comments on: Fine-needle diathermy for corneal vascularization

Dear Editor,

With great interest, we read the article titled "Fine-needle diathermy for corneal vascularization" and watched the embedded video lecture.<sup>[1]</sup> The authors have explained in a very helpful way which cases require corneal fine-needle diathermy (FND) and how to perform it.

We agree on which are the indications and the procedure for FND, except for one point.

Ravichandran and Natarajan suggest occluding both corneal blood vessels, afferent and efferent, whereas we think that the FND should be limited to the afferent vessels to minimize the corneal thermal damage.

Indeed, the literature suggests that the thermocoagulation may affect the area surrounding its application, damaging the corneal endothelium and the adjacent stroma, as a result of the shrinkage of the collagen, with subsequently corneal thinning.<sup>[2]</sup> Moreover, the heat may modify corneal curvature and, as already reported by Ravichandran and Natarajan, the corneal diathermy itself may be a stimulus for further corneal neovascularization (CoNV) in view of the release of proangiogenic factors and can cause also corneal melting.<sup>[3]</sup>

Subsequently, limiting the FND to the afferent vessels may be advisable considering that arterioles represent less than 1% of the component of CoNV.<sup>[2]</sup>

Distinguishing between the afferent and the efferent vessel is possible at biomicroscopy, although it can be difficult even with patients' pulse aid. A better approach is to first identify them by corneal angiography and then marking at a slit lamp by using a needle. Indeed, corneal indocyanine green angiography (ICGA) has proved to allow the identification of the afferent feeder vessels even in the case of corneal opacities, which limits the biomicroscopic evaluation.<sup>[4]</sup>

In addition, considering whether a noninvasive diagnostic procedure such as optical coherence tomography angiography (OCTA) is a valid substitutive method for afferent vessel identification, the literature suggests that ICGA is still superior to OCTA, which is less precise in capturing small vessels in CoNV complexes.<sup>[5]</sup>

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### Conflicts of interest

There are no conflicts of interest.

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