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Reply

Reply to Maffulli, N.; Spiezia, F. Comment on "Foti et al. Identification of Achille's Tendon Tears: Diagnostic Accuracy of Dual-Energy CT with Respect to MRI. *J. Clin. Med.* 2024, *13*, 4426"

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I need to thank my colleagues for their valuable comments on the recently published paper entitled "Identification of Achille's Tendon Tears: Diagnostic Accuracy of Dual-Energy CT with Respect to MRI". The clinical topic of the study concerns the evaluation of the Achilles tendon, a structure characterized by complex biomechanics. Its pathology, which is multifactorial and has various facets, can be challenging to assess in daily practice [1,2].

I fully agree with the analysis conducted and recognize the importance of clinical examination, ultrasound, and MRI for the pre- and post-surgical assessment [3–8].

Indeed, in my daily practice as a radiologist, I always rely on ultrasound and MRI for the management of patients with Achilles tendon pathology. These tests surely represent the reference standard, in my opinion.

However, the purpose of this feasibility study was to evaluate the possibility of using DECT for the assessment of tendon tears. Although DECT has been proposed for imaging the anterior cruciate ligament [8–10], the assessment of Achille's tendon represents a new topic for DECT, especially because it was carried out with the use of a non-specific application.

Only through small steps, including analyses like ours, will we be able to understand whether DECT (and the future machines that will follow) can truly play a role in the evaluation of tendon and ligament pathologies.

Conversely, I must express my disagreement regarding the limitations mentioned: nowadays, DECT scanners are largely available in Western countries. These scanners are cheaper than MRI ones, with inferior reimbursements (less impact on the healthcare system), and the scanners are much faster, with an MSK acquisition lasting only a few seconds.

Also, radiation exposure issues are not significant, except in very young patients, because the latest generation scanners, and even more so the photon counting scanners that have been on the market for about 2 years (representing the most recent evolution of DECT), allow for very low doses that are negligible in adult patients [11]. Also, radiation burden is usually neglectable in the foot.

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On the contrary, CT offers additional advantages: in comparison to MRI, it is faster, less expensive, and allows for optimal evaluation of bone trabeculation and small intra- or peri-articular or tendinous calcifications, with spatial resolution reaching up to 0.2 mm. There are no issues with claustrophobia or pacemakers. Moreover, DECT is the best method for reducing artifacts caused by synthetic metal components or prostheses [12,13]. With respect to the US, DECT is once again capable of evaluating the bone with great detail, encompassing the possibility of detecting bone marrow edema (BME) and bone marrow lesions around the joints [14–16]. Also, DECT arthrography can take advantage of the multifactorial approach based on several specific applications [17]. For these reasons, DECT has been successfully employed for diagnosing several entities in the lower limb, including traumatic and non-traumatic BME, such as in transient bone marrow edema syndromes, in stress or insufficiency fractures, or even in infective diseases such as osteomyelitis [18–20]. In these settings, it is not a mistake, in my opinion, to invest in DECT technology to potentially achieve, in the not-too-distant future, a rapid and readily available method to be offered to patients who, for various reasons, do not have access to MRI or cannot be managed with ultrasound alone.

Conflicts of Interest: The authors declare no conflicts of interest.

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