First, the authors reported that US was performed in four different planes: a suprapatellar longitudinal scan, an infrapatellar longitudinal scan and medial and lateral longitudinal scans. The total US scores were then calculated by adding power Doppler scores obtained from all four sites. This scanning technique is not in accordance with other US studies where scanning is performed at three sites: the suprapatellar pouch and the medial and lateral recesses [2, 3]. The knee joint cannot be visualized with an infrapatellar view. The main abnormality that can be seen via an infrapatellar scan is enthesitis of the patellar tendon as well as bursitis of the superficial and deep infrapatellar bursa. Although bursitis is a frequent feature of RA, this is not scored as a part of knee joint synovitis and, by definition, is not mentioned in the current article as well. Whether power Doppler scores for bursitis were also increased in these patients is another research question and clearly needs assessment of enthesitis of the patellar tendon, as enthesal abnormalities are frequently seen with bursitis and possibly related to each other [4]. So we believe that for the purpose of the current study, only scores obtained via suprapatellar, medial and lateral scans should have been compared in patients with inflammatory arthritis and OA.

Second, it has been reported that an intra-articular Doppler signal can be found in ~19–55% of all knee arthritis [3, 5]. We also demonstrated in a recent trial that the prevalence of a power Doppler signal is 16.3% in inflammatory arthritis and 6.7% in OA [6]. However, in the current article Beitinger et al. [1] detected a power Doppler signal in most of the cases, including OA patients, where only three of them were power Doppler negative. This is in contrast with the literature and deserves a reply to the question of why there is such a difference between trials if the same Doppler technique is used to avoid artefacts. Providing images for different sites and degrees of inflammation would be convincing for the readers.

Third, Doppler information is always used on top of grey-scale information [5]. This is important both in terms of the definition (Doppler signals are considered abnormal when detected in synovial tissue in grey scale) and for scoring, since Doppler findings are scored according the percentage of synovial tissue covered by the Doppler signal. Besides, the lack of a Doppler signal does not rule out the presence of inflammation [7]. We also have studied angiogenesis in inflammatory arthritis with angiogenesis mediators in addition to US findings [6]. In this study, synovial hypertrophy was positively correlated with angiostatin and basic fibroblast growth factor. Grey-scale data regarding effusion and synovial hypertrophy could reflect not only angiogenesis, but also negative effects of marked effusion on power Doppler signals.

In conclusion, from our clinical practice and research, we agree with the authors that a Doppler signal is more common in inflammatory arthritis, but is also available in OA to some extent. However, the data from the current article need to be handled carefully given the technical pitfalls mentioned above.

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References

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Comment on: The value of colour Doppler sonography of the knee joint: a useful tool to discriminate inflammatory from non-inflammatory disease?: reply

Sir, we read the comment [1] on our recently published manuscript [2] and its interpretation with great interest and were surprised by the scientific critic.

First, Karadag and Aydin [1] mentioned that the scanning planes used in our study would not be suitable for
detecting joint inflammation and were not in accordance with other studies. However, we performed the scans that were proposed by the European League Against Rheumatism (EULAR) Working Group for Musculoskeletal Ultrasound [3], and which were applied in many studies [4]. As described in a recent published study [5], the suprapatellar, medial and lateral longitudinal scans are most suitable to detect hyperperfusion in the knee joint.

In addition, we do not understand the comment that the knee joint cannot be visualized in an infrapatellar scan. Indeed, every proposed scanning plane visualizes different parts of the knee joint. Besides the entheses, ventral intra-articular joint compartments, such as Hoffa’s fat pad, can be visualized utilizing an infrapatellar scan, which is frequently involved in the inflammatory process [6].

Second, the authors are concerned about the high colour Doppler activity observed in our study cohort, which is in contrast to their own results and is not in line with previously published literature. However, several studies have been published demonstrating hyperperfusion in the knee joints of patients suffering from OA, confirming our results [7, 8]. Furthermore, the majority of OA patients enrolled in our study suffered from long-lasting, very severe disease, reflected by the fact that these patients were scheduled for knee joint replacement surgery. Because of this late stage of the disease, marked synovial hypertrophy can frequently be observed, leading to increased perfusion.


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