

RE: Musculoskeletal Applications of Elastography: a Pictorial Essay of Our Initial Experience

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Dear Editors:

We fully agree that sonoelastography is a very useful in musculoskeletal imaging modality, especially for evaluating tendon tears, early softening, and degenerative changes in the tendons (1, 2). However, it is not easy to perform on all tendons.

Scanning an Achilles tendon (3), being superficial, is very easy to scan and similarly, sonoelastography is also very easy given that it is easy to compress the superficial structure. However, the orientation of supraspinatus is complex as it lies deep at bone level and at the deltoid to some extent, and also has an oblique course. Hence, when

we try to compress the superficial structure, the ultrasound transducer should be held exactly parallel or perpendicular to the supraspinatus tendon. It is also important to note that because it is a deeper tendon, the manual compression force may not be enough to cause the strain within the tendon. Patient co-operation is also very important. We are presently studying the technique of sonoelastography in supraspinatus at our institute. No major publication or research has been produced thus far for supraspinatus (the author's citations include educational exhibits or conference presentations only). Hence, we need further research to prove the use of elastography in supraspinatus.

The other problem is there may be pitfalls in the imaging of muscles (1). The strain pattern may differ according to the contraction or relaxation status of the muscle. Hence, we feel it may not be useful in evaluating muscles.

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Response

Palle Lalitha, MD

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Dear Editors:

I fully agree that it is technically more difficult to perform sonoelastography of the supraspinatus tendon than for superficial tendons. We have been working on supraspinatus elastography for a year and have performed this investigation on more than 300 tendons (normal and abnormal) with MRI correlation in the abnormal tendons. We had difficulty in the beginning as regards the technique and interpretation, but have gained much experience including MRI correlation for most of the tendons. We are sufficiently experienced now to publish this pictorial essay; to advise readers which situations elastography may prove useful. Discussing the difficulties and pitfalls of the technique was not possible in this pictorial essay.

In regards to the elastography of muscles, we perform all examinations in the relaxed muscle state. We have also examined 25 patients with myositis and many more normal

volunteers and have found that elastography may be useful in picking up softening or fibrosis in muscle. Again, a lengthy discussion on this was beyond the scope of this pictorial essay. However, we totally agree that a lot more research needs to be performed, in order to prove, beyond doubt, the clinical utility of elastography. As I have said earlier, our aim was only to make the readers aware of the various applications of sonoelastography and stimulate further research.

There is currently a lot of research activity going on in the field of musculoskeletal elastography (1, 2) which is being discussed in conferences the world over and hopefully it will not be long before this valuable research is published.

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