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In Response to: “Current Concepts in Patellar Tendinopathy”

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Dear Sir

We have read the article by Dr Sugranes et al, and we appreciate the work gone into attempting to prepare a comprehensive current concept review on such a complex and at times controversial topic (1). We would like to point out a few issues:

1. In the article, it is stated that ‘… inflammation, previously considered the main cause of PT, is not supported because of the absence of inflammatory cells’. In the final part of last century, we put forward exactly such concept, and flinched at the fact that the suffix ‘…itis’ was still being used to describe these conditions (2). This gave rise to the suggestion that such conditions should be called ‘tendinopathy’ (3), and indeed we have been pleased to observe that this terminology is now widely accepted. However, molecular and gene expression studies have later demonstrated that, though the essential pathology of tendinopathy is a failed healing response (4), repeated episodes of subclinical inflammation can be at the root of the pathology (5), (and repeated pro-inflammatory insults do induce a tendinopathic picture at histology (6). Such insults may even result from simple overheating produced by physical exercise (7).

3. Palpation at the interface between the lower pole of the patella and the patellar tendon does indeed produce pain when the knee is extended, and such pain is decreased, and often absent, when the knee is flexed. We have explored this phenomenon (namely, that the pain decreases, and often absent when the tendon involved is subjected to tension) in the Achilles tendon (8), and shown that it applies to the patellar tendon (9) as well, with a high degree of sensitivity and specificity for the diagnosis of patellar tendinopathy. We are not able to offer an explanation to this finding, but, likely, the mechanical protection hypothesis is too simplistic to explain it, as the decrease in pain is also found in tendons, such as the Achilles tendon, where the local anatomy is different from that of the patellar tendon.

4. Regarding classification, we respectfully point out that the Victorian Institute of Sport Assessment (VISA) score was conceived to give a continuous numerical result following administration of the questionnaire to provide utility in both clinical and research setting (10). The VISA family of questionnaires were not designed to be diagnostic, and surely not to ‘classify’ the condition.

5. Among treatments, the authors briefly mention the use on non-biological injectables. With all the limitations given by the non-randomised studies when dealing with patellar tendinopathy (11–13), high volume image guided injections do play a role in patellar tendinopathy, and have been shown to be more effective in the medium term compared to platelet rich plasma in randomised controlled trials (14). In these injections, the mechanical effect of the high volume...
injected (50 to 60 mL of fluid) is likely more relevant than the actual injectate.

6. Shock wave therapy is only briefly mentioned, and essentially dismissed. We were somewhat puzzled at the mention of ‘electric shock wave therapy’, but we shall not dwell on terminology. We however point out that, providing that the protocols are followed, such non invasive modality can be effective (15,16). Unfortunately, many patients, and physicians, expect immediate resolution of symptoms. Part of the protocol of shock wave therapy is that assessment should be performed three months after the last application of the modality, and that controlled exercise rehabilitation should be implemented in the interim: many health care professionals may chose to ignore this recommendation. More recently, we have shown that whole body vibration improved symptoms typically associated with patellar tendinopathy. This type of intervention is as effective as heavy slow resistance training against the maximum pain of patellar tendinopathy, though results are obviously still preliminary.

7. Among the surgical options, ultrasound guided percutaneous needle tenotomy was mentioned. We were surprised, however, that ultrasound-guided percutaneous longitudinal tenotomy (17), which was described more than 20 years ago, did not receive at least an honourable mention.

8. Regarding open surgical management, we appreciate that there is a school of thought that we should be as aggressive as possible, and that tunnels, anchors etc should be used. We respectfully point out, however, that ‘less may be more’, and that systematic reviews have not reported significant differences between the different techniques, regardless of their technical complexity (18). Indeed, this is reflected by our approach when dealing with revision cases, as reported by Sugranes et al, where we abstain from the temptation of complicating the procedure. We acknowledge that resection of the lower pole of the patella is voiced to produce better results (19), but head to head studies are lacking.

In the end, we thank Dr Sugranes and colleagues for their Current Concept Review, and hope that the points raised above will help to clarify some of the issues characterising this common but complex clinical syndrome.

Best regards

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References


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Article Author Response
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Dear Editor,

We wish to extend our gratitude to the Editor for providing us the opportunity to respond to the letter by Professor Maffulli et al. concerning our recent article entitled ‘Current Concepts in Patellar Tendinopathy’ (1) . We deeply value
their thoughtful engagement with our work and willingness to impart their insights regarding our research. While we hold their perspectives in the highest regard, we would like to take this opportunity to present our perspective on several points that have been raised.

The initial concern, which pertains to our decision to eschew the usage of the term ‘tendonitis’ in favor of ‘tendinopathy’ within the article, stems from our commitment to presenting a more comprehensive and precise representation of the condition, as delineated in the Maffulli et al. article (2) . Through the utilization of ‘tendinopathy,’ our article endeavors to provide a broader and more inclusive framework that encompasses the array of factors contributing to these conditions, thereby resulting in a more precise depiction of this intricate clinical syndrome.

Regarding the second concern, we wholeheartedly agree that molecular and gene expression studies have illustrated the intricate nature of tendinopathy. It is widely acknowledged that the pathology involves a compromised healing response (3) . However, it is crucial to recognize that repeated stress or insults can contribute to the histological manifestations observed in this condition (4) . These manifestations encompass hypercellularity with atypical fibroblasts, deviations in collagen distribution, the formation of tissue microtears, hyaline degeneration, cellular metaplasia, instances of cellular apoptosis, and fibrinoid necrosis (5).

The third point, pertaining to the reduction of pain during tendon tension and the inquiry regarding the adequacy of the mechanical protection hypothesis, indeed prompts thoughtful consideration (6,7) . It is pertinent to highlight that the proposition of the mechanical protection hypothesis can be a matter of debate, particularly when one considers that similar pain reduction phenomena are observed in tendons situated in diverse anatomical locations.

Regarding the fourth concern, we concur with their interpretation that the Victorian Institute of Sport Assessment (VISA) score was originally designed to yield continuous numerical outcomes rather than serving as a classification tool (8) . However, it is essential to clarify that while the VISA score is situated within the CLASSIFICATION section, our intention is not to perceive it as an independent classification criterion. Instead, we regard it as an integral component of a broader “classification system” devised to assess the severity of tendinopathy through questionnaire-based grading. Upon a thorough examination of the authors’ evaluation and the article, it becomes evident that this placement could potentially engender confusion, and in light of this observation, we concur with their viewpoint.

The authors express their sincere appreciation for the fifth concern raised, which pertains to high-volume image-guided injections. This perspective is highly valued and offers a promising avenue for less invasive therapeutic options before considering surgical interventions. It is, however, important to acknowledge that recent literature has introduced some controversy surrounding this treatment modality, particularly in comparison to “placebo” injections, which have yielded inconclusive outcomes (9) . On a contrasting note, platelet-rich plasma (PRP) has emerged as a more promising option with favorable long-term results compared to other non-operative treatments in randomized controlled trials (10,11) .

The sixth concern underlines the authors’ agreement with the effectiveness of shock wave therapy when protocols are diligently followed, aligning with the article’s perspective. While the article briefly mentions shock wave therapy and acknowledges the challenge of early symptom resolution, the authors also recognize the potential promise of vibration therapy.

Regarding the seventh concern, the authors acknowledge the omission of mention of ultrasound-guided percutaneous
longitudinal tenotomy in their article, despite precisely citing “needle” tenotomy guided by ultrasound as a focal point (12,13). They express their utmost respect and appreciation for the substantial contributions to the field associated with ultrasound-guided percutaneous longitudinal tenotomy (14).

The final concern, pertaining to the adoption of a less aggressive surgical approach for patellar tendinopathy, is duly noted and thoughtfully considered. The authors acknowledge the support for this approach from the literature and recognize the ongoing debate concerning the technical intricacies involved in such procedures (15). They emphasize that the deliberate inclusion of this relatively recent technique was aimed at broadening the spectrum of available surgical approaches and providing an alternative option, particularly for refractory cases (16). The authors express their commitment to further exploring this intricate field with the intention of advancing understanding and offering improved solutions in the future.

In conclusion, we genuinely appreciate the engagement of Professor Maffulli and the contributors with their letter. We recognize that the perspectives shared have added depth to the conversation and contribute to the ongoing exploration of this complex clinical syndrome. We believe that these insights, in conjunction with those presented in the article, collectively enhance the understanding of patellar tendinopathy.

Best regards,

References