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Letter to the Editor regarding Maillot et al: "Surgical repair of large-to-massive rotator cuff tears seems to be a better option than patch augmentation or débridement and biceps tenotomy: a prospective comparative study"

To the Editor:

We would like to congratulate the authors of the article entitled "Surgical repair of large-to-massive rotator cuff tears seems to be a better option than patch augmentation or débridement and biceps tenotomy: a prospective comparative study"[2] for their great study. However, we believe that it is important to mention that, rather than deducing that "The use of porcine dermis patches to augment repairs of massive and irreparable rotator cuff tears is not recommended because there is no benefit compared with repair without augmentation and patches result in more complications," the study only highlights the need for proper randomized controlled trials, with adequate patient numbers, comparing standard arthroscopic rotator cuff repair vs. arthroscopic rotator cuff repair with augmentation using more modern extracellular matrix patches, which have undergone more modern denaturing processes than the patch used in this study. The reasons for our argument are as follows:

1. We congratulate Maillot et al[2] for being gracious enough to state that one of the limitations of the study is that it is not randomized. However, we find this to be a major issue with the study. They stated that "randomization was difficult because tendon repair depended on tendon substance defects, tissue quality, and the patients' expectations." Does this mean that patients with more challenging tendon substance defects and tissue quality were more likely to be selected for one particular treatment group (eg, patch augmentation)? If so, this would have introduced bias.
2. The number of patients in each group is very small, and if one were to perform a proper power analysis, one would expect between 20 and 25 patients in each treatment group.
3. Although Maillot et al[2] argued that "the use of both arthroscopic and open procedures does not generate bias in comparison, as a recent study showed that there is no difference in the 2 procedures after the first year," we strongly believe that true comparisons between rotator cuff repair with and without augmentation can only be made if the same technique (eg, arthroscopic) is used for both repairs. Numerous techniques for performing rotator cuff repair with augmentation arthroscopically have been described.[4]
4. Newer porcine extracellular matrix patches are now on the market that undergo more modern DNA extracting procedures than the one used in this study. The inflammatory response appears to be less with the more modern patches that are available.[1] Furthermore, Maillot et al[2] argued, "In a recent study comparing 8 commercial scaffolds, Smith et al concluded that no single scaffold currently available was superior to the others and that new scaffold designs are needed to minimize complications."[5] It is important to note that this referenced study was an in vitro study, which showed that different scaffold types have different advantages and disadvantages. In addition, this study did not include the most modern animal patches.
5. Maillot et al[2] mentioned that "Malcarney reported up to 16% aseptic and nonspecific inflammatory reactions with certain xenografts."[3] This publication is over 13 years old and would not include those animal patches that have undergone more modern processing. It was a report of 4 cases in which porcine small intestine mucosal tissue was used.
6. It is well known that many patients with radiologic evidence of failed rotator cuff repair still do well clinically. However, it is also known that those with healed tendons do better. We believe that the real question is whether the use of augmentation results in increased healing rates. This question could only be

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answered by soft-tissue imaging, with either magnetic resonance imaging or ultrasonography.

In summary, it may be that augmentation with porcine patches does not have any benefit. However, this can only be deduced by proper randomized controlled trials with adequate patient numbers, comparing arthroscopic rotator cuff repair vs. arthroscopic rotator cuff repair with augmentation using patches that have been subjected to modern processing techniques.

Disclaimer

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