COMMENTARY & PERSPECTIVE

Initial Nonoperative Care Is Reasonable for Older Patients

Commentary on an article by Juha Kukkonen, MD, PhD, et al.: "Treatment of Nontraumatic Rotator Cuff Tears. A Randomized Controlled Trial with Two Years of Clinical and Imaging Follow-up"

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Appropriate indications for rotator cuff repair are a fundamental treatment consideration for which there still remain substantial differences of opinion. Important issues include the short-term and long-term efficacy of treatment choices balanced with the risks of these decisions. It is only with well-performed, randomized controlled trials such as this one by Kukkonen et al. that better standardization of indications for rotator cuff repair can be incorporated worldwide. This study is well conceived, and the authors are to be congratulated. At two years of follow-up, the authors found no significant difference among three treatment groups (physical therapy, acromioplasty without repair, and rotator cuff repair) for the Constant score, visual analog scale (VAS) pain score, and patient satisfaction. The mean tear size at the two-year follow-up was significantly smaller in the operative repair group in comparison with the two groups without repair. Given these results, the authors concluded that, in older patients (those with a mean age of sixty-five years), physical therapy as the primary initial treatment for nontraumatic but symptomatic supraspinatus tears was a reasonable option.

It is important to note that the authors chose to focus on relatively older patients with rotator cuff tears. This is in contrast to previous nonoperative trials that generally included patients of all ages in comparing conservative treatment with surgical treatment. The results of studies of the natural history of rotator cuff disease would suggest that there are very different risk and benefit profiles when considering conservative or surgical treatment in younger patients compared with older patients^{1,2}. For instance, progression of rotator cuff tear size may be a much more serious problem in younger patients than in older patients^{1,2}. In general, a younger person may have higher activity expectations, a longer expected time period to live with a tear, and lost opportunities for surgical repair if managed with conservative treatment. All of these issues can result in a higher risk of failure with delayed operative intervention. In contrast, older patients may not have these same risks with conservative treatment, as these patients' activity levels would generally be lower and the time period that the patients would have to live with a full-thickness rotator cuff tear would be shorter.

Perhaps more importantly, the alternative of surgical treatment may not be as beneficial in older patients. It has been demonstrated repeatedly in the literature that age is one of the most important factors predicting whether or not healing of a surgical repair will occur^{3,4}. Thus, a young person may lose an opportunity for healing with a delay to surgical repair. This risk is not as substantial in an older person. Another important consideration is an increase in tear size over time. Several recent reports have suggested a very high likelihood for increase in tear size with conservative treatment^{1,2}. This issue once again may be much more important in younger patients than in older patients. The size of the tear at the time of the surgical procedure has been shown to be similarly important to age as a predictor of whether or not healing can occur with repair⁵. Thus, a young person with a small tear that is allowed to become larger may lose an opportunity for healing. In an older person, the chances for healing become more guarded, and an increase in tear size, although potentially detrimental, would be less of an important issue compared with a younger person. Thus, it is important to consider age in rotator cuff indications, and, in this study, Kukkonen et al. showed the foresight to make that distinction.

Having noted the importance of age in interpreting a study's findings, the authors could have done a better job in distinguishing younger from older patients. In this study, older patients included anyone above fifty-five years of age. From the standpoint of natural history and healing from surgical treatment, a patient age of fifty-five years is very different from a patient age of sixty-five years⁶. To date, the literature has shown that the mean age of a patient who undergoes a rotator cuff repair and heals is somewhere around fifty-three to fifty-five years. In contrast, the mean age of a patient who does not heal from a rotator cuff repair is around sixty-three to sixty-five years. In this study, although the mean patient age was sixty-five years, the inclusion criteria lumped patients who were fifty-five years of age with patients who were as old as eighty-one years. The literature would not support that a supraspinatus tear in a fifty-five-year-old patient is equivalent to that in an eighty-year-old patient. It is not even equivalent to that in a sixty-five-year-old patient. Thus, although the authors have done a better job than the authors of previous literature in

separating younger patients from older ones, further long-term follow-up of this population can benefit from separating patients older than sixty-five years of age at the time of enrollment from those younger than this age.

The worrisome finding of increased mean tear size in the non-repaired treatment groups is consistent with recent literature regarding progression of rotator cuff tears. As stated before, the implications of this increase in tear size of the non-repaired group are based mostly on age. In patients younger than sixty-three to sixty-five years of age, the increase in tear size can have important implications in that a tear that could have been well treated with an early surgical procedure can degenerate into a tear in an older individual with a much lower probability of healing. In patients older than sixty-five years of age, an increase in tear size is not as likely to have a substantial functional impact. After the age of sixty-five years, asymptomatic rotator cuff tears are prevalent and are almost common after the age of seventy years⁶. As healing is not likely in these older patients, early surgical treatment is not likely to change the natural history of the tear. The results from a recent study by Kim et al. would also suggest that there are significant differences in the implication of a lack of healing as a function of age⁷.

Overall, the authors are to be congratulated with a fine study that indicates that, in the older population, initial trials with conservative treatment are a reasonable treatment option. Longer-term follow-up will be important in substantiating these results. Additionally, further studies differentiating patients who are younger than sixty-five years of age and those who are older will be very important to further characterizing appropriate indications. It is apparent that the authors have the study design to evaluate their results in the future with longer follow-up. I sincerely hope that they continue with refined age considerations.

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