LETTERS TO THE EDITOR

Analysis of reoperation rate after strabismus surgery

Dear Editor:

Benson et al. analyzed reoperations among strabismus patients.1 They stated that “the historical strabismus reoperation rate over a 21-year period was 15.7%” and hoped that their results might “benefit in the preoperative counseling of patients.” Unfortunately, if a patient asks about the likelihood that he or she will require reoperation over the next 21 years, the answer is probably much higher than 15.7%. The reoperation rate in just the first postoperative year is about 7.7% in children,2 and 8.5% in adults.3 The only way to know the true reoperation rate over 21 years in all patients is to wait until 21 years after the last patient has surgery. The survival curve in their paper is labelled “Kaplan-Meier-like.” A correct survival curve has the number of years since an individual patient had surgery on the x-axis. For instance, at the 21-year postoperative mark, the survival curve should only show patients who had surgery in 1995. Instead, the last point on their survival curve includes every patient operated on at the hospital since 1995. In reality, a patient who had surgery in 2015 (for example) will not teach us anything about the 21-year reoperation rate until the year 2036. Could the authors provide the reoperation rate at 1, 2, 5, 10, 15, and 20 years after a patient had surgery, excluding all patients who had surgery less than 1, 2, 5, 10, 15, and 20 years (respectively) before the data were collected?

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REFERENCES

Response to Analysis of reoperation rate after strabismus surgery

We would like to thank Leffler and colleagues for their interest in our article and for their thoughtful feedback. The primary purpose of our study was to evaluate the proportion of surgeries that were re-operations over 21 years at a single major referral center. The second objective was to analyze and introduce guidelines for the timing of re-intervention.

From 1995 to 2015, we determined the re-operation rate to be 15.7% in our study. This represents the proportion of surgeries that were re-operations over 21 years at our institution. As correctly stated by Leffler and colleagues, this does not represent entirely an individual’s likelihood of requiring re-intervention in 21 years as not every patient in our study had an opportunity to be followed for 21 years. In our paper, Figure 2 demonstrates our institution’s cumulative re-operation rate over 21 years. It is not a survival curve and was not described in an effort to avoid misrepresenting it as a survival curve.

Certainly, we realize that the likelihood of a specific patient requiring re-operation over 21 years may be higher than 15.7%. However, the comment that the rate “is probably much higher than 15.7%” is not entirely fair. Figure 2 illustrates that as the cumulative institutional re-operation rate is evaluated over a longer period of time, the cumulative rate approaches a horizontal asymptote. As a result, we believe that the cumulative re-operation rate that we determined for our institution is still a useful approximation for the pre-operative counseling of patients. Finally, we thank the authors for their suggestion of interrogating the re-operation rate at 1, 2, 5, 10, 15, and 20 years in the manner they described. While other studies have conducted similar analyses,2,3 we can use our data to examine this in the future.

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