

Sutures, Cylinder, and Straw Men

In this month's issue, there is a report of a study which evaluates the amount of cylinder produced by different cataract surgical incisions and closures.¹ Some might wonder why we published this paper as it deals with a topic which, to them, may seem trivial—length of incision and type of suturing techniques. On the other hand, cataract surgery is the most widely performed ophthalmic surgical procedure and is surrounded by considerable controversy—controversy over the indications for surgery, its cost, the need for surgical assistants, the need for anesthesiologists, advertising and marketing the procedure, and the best way to perform it. Because there is so little in the way of controlled, prospective studies on any aspect of cataract surgery technique, we were pleased to see the study by Steinert and colleagues and felt that it deserved publication. Why? First, because it shows that it is very feasible to perform prospective, controlled studies on cataract surgical techniques using the operating room as a research laboratory from which excellent data on humans can be gathered and disseminated; and second, because availability of these data may provide a basis against which to measure future results. There are also reasons to accompany the article with an editorial. One is to discuss the study's results from the viewpoint of clinical significance. Another is to contemplate the straw men of sutures and cylinder.

It is important to emphasize that the study by Steinert et al¹ compared two incision lengths used with phacoemulsification procedures and did not include larger incisions as needed with standard extracapsular surgery. The amount of cylinder induced by longer incisions used in the standard procedure would be expected to be greater than the amounts found in either the "conventional" (6.5 mm) or small (4.0 mm) incisions evaluated in the present phacoemulsification study. This distinction notwithstanding, the clinical significance of the results can be discussed meaningfully and in all likelihood may apply to the larger incisions of planned extracapsular surgery, the technique used by most ophthalmic surgeons today.

In comparing the amount of cylinder produced by the two incisions at 1 day after surgery, Steinert and colleagues found that there was a difference of 1.54 D (smaller incision) versus 3.07 D (larger incision) and that this difference at 3 months after surgery had fallen to 0.82 D versus 1.03 D. Further, the patients who had received smaller incisions had better uncorrected vision at 1 to 2 weeks after surgery than did patients in the "conventional" incision group. But at 1 and 3 months after surgery, both groups had about the same percentages of 20/40 or better unaided visual acuity. Are these differences important enough to mandate that surgeons change the way they perform cataract surgery?

Most ophthalmologists would agree that the goal of cataract surgery is to improve the quality of life for patients by improving their eyesight as much as possible. The ultimate optical correction to provide the greatest improvement in life satisfaction should be achieved in a reasonable period of time. Whether a spectacle correction in 1 to 2 weeks or one with more cylindrical correction differs significantly from one at 3 months after surgery has not been studied in terms of quality of life. But the Steinert et al study suggests that even if glasses were prescribed at 1 or 2 weeks after surgery for both incision groups studied, those glasses would need to be changed at 3 months after surgery to achieve the best vision. In that sense, then, does it matter that the initial spectacle correction would contain about 1.5 D more cylinder with the larger incision as long as the cylinder was well tolerated (which can be as much a reflection of the axis of the cylinder as its amount)? And, do patients care to obtain glasses at 1 to 2 weeks when a change will likely be needed a short time later? As yet, there are no answers as to patient preference, and the current study does not provide them. So, where is the impetus coming from to use smaller incisions and fewer sutures in cataract surgery? It appears not to be from dissatisfied patients. Rather, it is from the marketing and advertising of ophthalmologists and industry.

The strategy of current cataract surgery promotions is to set up what some may view as the straw men of sutures and cylinder. Thus, in the current "suture wars" it is necessary to make patients believe that sutures are "bad" in order to lay the groundwork for the next promotion—the one touting the operation that uses one or no sutures. To most surgeons, sutures represent safety and are used to avoid wound dehiscence before the wound is healed. Yet, if the public can be convinced that sutures are bad, the surgeon

who uses the least or even no sutures is able to gain a distinct advantage in the hunt for patients. The marketing device is aimed at getting patients to ask their own and heretofore trusted physician if he or she uses this one- or no-stitch technique with the implication that if the answer is "no" then the patient ought to find another surgeon who does. Such an approach puts great pressure on surgeons not using these "new" and "advanced" techniques to learn and implement them.

But why? Is it because their results with two or more sutures have been poor? Have their patients suffered because sutures were used? Likely not. Has any of us read any legitimate study that shows that patients having cataract surgery benefit from fewer sutures? In fact, surgeons who have been perfectly happy with their results and whose patients have been equally pleased are now encountering pressure to change to a different procedure—and not because of any scientific evidence that fewer sutures make happier patients. Rather, it is to hang on to patients who are being lured away by aggressive Madison Avenue techniques. It is not at all inconceivable that even the most talented eye surgeons will have more complications with a less familiar procedure than with one that has been learned well, performed regularly, and has stood the test of time. But if patients can be convinced that they must have the smallest incision and the fewest sutures, who stands to gain? Those surgeons who perform the procedure and the industry that supports them. In other words, those companies manufacturing certain intraocular lenses—the only ones implantable through small incisions—and companies that produce instruments used in small-incision operations.

There should be little disagreement that most every cataract surgeon is achieving a high degree of successful results and highly satisfied patients. And, those who are not so successful are not failing because their incisions are too big or because they are using too many sutures. If a surgeon is an adequate, but not spectacular technician, performing even more difficult technical exercises just to keep up with the competition will not be of help to his or her patients. Quite the contrary.

Advances in surgical techniques should be developed with careful thought and study as exemplified by the study by Steinert and colleagues. However, these techniques should only be introduced on a broad scale when they have been shown to be valid and of benefit to patients. Introducing new techniques to augment patient volume or enhance commercial profits is not in medicine's or patients' best interest. Using economic coercion to lead reluctant surgeons down the primrose path of embracing techniques whose benefits to patients are as yet unproven is unworthy of the medical profession. If we agree that good vision, uncomplicated surgery, and patient benefit are the goals of cataract surgery, then it serves little more than a selfish purpose to drive the so-called average swimmer to perform twists and backflips off the high board just to have the chance to swim in the pool.

Left alone, perhaps most surgeons would not want to change their successful cataract surgical technique in order to achieve 0.21 D less cylinder at 3 months after surgery or to have more patients with better uncorrected vision at 1 to 2 weeks after surgery. That is, until the straw men came along. Now that sutures and cylinder are being depicted as the relics of second-rate cataract surgeons, it will be interesting to see whether the shift to small incision, sutureless surgery becomes the wave of the future.

For the present, the one thing that the paper by Steinert et al¹ shows is that after a very short period of time, cataract surgery yields excellent visual results with either small or conventional incision surgery irrespective of the method of suture closure. Let us hope that the study's results will not be used to imply that there is a new standard for cataract surgery and that those who do not use phacoemulsification, or small incisions, or one or no sutures are not providing optimal care for their patients. The answer is far from in on that subject.

Reference

1. Steinert RF, Brint SF, White SM, Fine IH. Astigmatism after small incision cataract surgery: a prospective, randomized, multicenter comparison of 4- and 6.5-mm incisions. *Ophthalmology* 1991; 98:417-24.

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