

Avoiding mediocrity

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Received: 12 October 2007 / Accepted: 4 February 2008 / Published online: 24 April 2008
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I was, once again, quite interested and pleased to read Dr. Granderath's two recent publications dealing with hiatal closure techniques [1, 2]. I believe that he and his group are on the right track. They have come close, but still fall short of the mark.

In my original proposal [3], I had suggested that there were two critical needs. The first was to have an accurate and reproducible manner to measure the size of the hiatal defect before closure. This allows surgeons to, in a meaningful way, "compare apples to apples" when measuring the outcomes of hiatal hernia repairs. This is predicated on the belief that, the larger the overall size of the hiatal defect, the more likely it is to recur, all other parameters being equal. In his two writings [1, 2], Granderath and his group describe, in an elegant, scientific, and reproducible manner a means for calibrating the size of the pre-closure hiatal defect. This technique appears to me to be simple, inexpensive, and reproducible. Unfortunately, both of these fine articles fall short. Specifically, despite reading through both articles thoroughly, I could not tell how tightly they did close the hiatus, nor could I tell how tightly they advocate it be closed. They describe their closure simply as "The closure is performed using as many (1–3) sutures as necessary to reinforce the crura, providing efficient closure with the esophagus lying loose in the hiatus." "Efficient closure" lacks the details of their pre-closure hiatal measurements. Unfortunately, this is the exact type of vague phraseology which so frustrates many learners, myself included [3]. Neither of the two articles, unfortunately, addresses the second part of my "modest

proposal", that is, exactly how tight the hiatus should be *after closure*.

Dr. Fourtanier also responded to my "modest proposal" [4]. I appreciate his response, as well. The key concept is that the hiatal closure should be *calibrated*, that is, measured in a reproducible way that can be replicated by surgeons of all skill and experience levels. The correct amount to close the hiatus is not exactly known. Ideally, it should balance a low postoperative hiatal hernia occurrence rate with an acceptably low rate of long-term (longer than 2 months) postoperative dysphagia. I currently believe the correct anterior–posterior diameter (APD) of the closed hiatus to be about 18–20 mm, based on personal experience, but not yet backed by outcomes data.

Dr. Fourtanier describes a new device for intraoperative hiatal calibration, the HiaTech® device [4]. This balloon device is currently being tested in a multicenter trial in Europe. I believe that this is exactly the type of effort that is needed to take the art and gestalt out of this surgery. These efforts will help make the operation highly reproducible for all surgeons, regardless of experience levels.

During the performance of all of the 120 cases in the multicenter trial the surgeons should measure the pre-closure APD and the APD after closure with the HiaTech® device. The first information this will provide is the mean APD after closure with their device. If the after-closure APD is consistent and reproducible, no device may be needed at all. Operations may then be reproducibly completed with nothing more sophisticated than a plastic ruler. The data can also be correlated with variables such as body mass index, gender, age, starting APD, change in APD, and postoperative hiatal hernia and dysphagia rates to look for possible regression equations to calculate the appropriate APD after closure. This might yield a way to predict the best post-closure APD based on valid outcomes data. It

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seems intuitive that a petite, 40 kg female with a BMI of 25 and a small hiatal hernia and a tall, 120 kg male with a BMI of 40 with a large hiatal hernia would not have the same ideal APD after closure of their respective hiatal hernias.

I applaud Dr. Fourtanier and his colleagues for their efforts to lay the groundwork for the future performance of funduplications and hiatal hernia repairs in a scientifically valid and accurately reproducible manner. I eagerly await the results of their ongoing, prospective multicenter study. I believe that by using the same, simple, inexpensive plastic ruler that we use to measure the hiatal defect, one can use Dr. Granderath's technique to accurately calculate the pre-closure cross-sectional area of the hiatal defect. The same plastic ruler can be used to measure the size of the hiatus after closure, as well. I wonder if Granderath and colleagues have measured the hiatus dimensions after closure. Have they applied their formula for area to the hiatus after closure?

In the future, to accurately analyze and compare the outcomes for patients with and without recurrences and with and without dysphagia, it seems imperative to know not only the starting size of the hiatus, but the ending size as well. Intuitively, larger hernias with larger hiatal defects seem more likely to recur. It also seems intuitive that large defects that are not closed tight enough are more likely to recur. If you do not measure your ending hiatal defect, you can not accurately define "tight enough". Finally, it also seems intuitive that, the tighter you close the hiatus, the more likely you are to have dysphagia induced by too tight

a hiatal closure. This is borne out by the article by Granderath wherein he concludes "In most patients, post-operative dysphagia is more a problem of hiatal closure than a problem of the fundic wrap." [5]. This closes the circle, then, as this was the article which prompted my original "modest proposal".

How big was the hiatal defect before closure? How big was the hiatal defect after closure? Knowing these details and analyzing our outcomes in terms of hernia recurrence and dysphagia may allow us, one day, to accurately recommend exactly how tight the hiatal closure should be. Dr. Michael E. DeBakey used to tell us, his trainees, that "Inattention to detail is the *hallmark* of mediocrity." Let us all pay attention to, and accurately define the details of, this operation and thus, hopefully, avoid mediocrity.

References

1. Granderath FA (2007) Measurement of the esophageal hiatus by calculation of the hiatal surface area (HSA). Why, when and how? *Surg Endosc* 21:2224–2225
2. Granderath FA, Schweiger UM, Pointner R (2007) Laparoscopic antireflux surgery: tailoring the hiatal closure to the size of hiatal surface area. *Surg Endosc* 21:542–548
3. Reardon PR (2006) A modest proposal. *Surg Endosc* 20:995
4. Fourtanier G (2007) A new method to calibrate the hiatus. *Surg Endosc* 21:1674–1675
5. Granderath FA, Schweiger UM, Kamolz T, Pointner R (2005) Dysphagia after laparoscopic antireflux surgery: a problem of hiatal closure more than a problem of the wrap. *Surg Endosc* 19:1439–1446