Commentary on: Single-Layer Plication for Repair of Diastasis Recti: The Most Rapid and Efficient Technique

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This is a very well thought out and good example of how to set up an objective randomized clinical study of matched patients, albeit with a relatively small number of cases. The title of this paper is however a little misleading in that the study really only compared speed of rectus diaphragm closure using a continuous 2/0 monofilament nylon, with a bidirectional locking Quill system (Quill Self-Retaining System [SRS], bidirectional barbed suture, Angiotech Pharmaceuticals Inc., Vancouver, British Columbia, Canada) and then compared the incidence of dehiscence of repair. The two layer 2/0 nylon closure control group was unnecessary in my opinion because recurrence of diaphragm after single layer closure is uncommon and there were too few cases studied.

There are still other ways of repairing diaphragms that have not been included or fully discussed and they may actually be more rapid and effective than closure with nylon in two segments with, I presume, four knots or no knots at all as with the Quill suture. Some of these methods become important when there are umbilical and periumbilical hernias and if there is a significant thinning of skin in the periumbilical region perhaps associated with low BMI. I am not a particular fan of the barbed suture, certainly not for skin closure, but the manufacturers published information on use of these products for equivalence with a 2/0 monofilament, suggest that the Quill nylon suture should be size 0 but Matarasso et al even suggested the size should be at least number 2 to specifically try and avoid the known risk of dehiscence when using barbed sutures. I note that Quill do not make a size 0 in nylon anyway so unfortunately the study findings are not strictly valid. There is inconsistency within this study if the barbed Quill suture closure is marginally slower (61 seconds) than continuous 2/0 nylon, yet the total operation time was 11 minutes less using the Quill repair of the diaphragm. If all else is equal, then this does not make sense and needs explaining but I suspect the argument will be down to lack of any statistical significance. Perhaps it was simply down to the learning curve of the surgeon using the Quill sutures. The most important finding therefore was that this author’s method of repair using a number 1 Quill suture caused at least a 30% chance of recurrence of diastasis. The actual method of closure of the diaphragm using the Quill is not made at all clear within the text and if I correctly interpreted the authors methodology where they describe closing in separate segments above and below the umbilicus, I suspect there is every reason for dehiscence if only a few barbs are actually gripping within the short segmental closure of rectus sheath.

The unsurprising finding in this paper was that neither single nor double layer 2/0 nylon repair showed a recurrence of diastasis. If good postoperative instruction and aftercare is employed, then this should not really occur in any group provided the integrity of the repair is maintained and the tissues are of good quality. I like many colleagues use an 0-loop nylon repair starting high in the epigastrium (not trying to draw in the congenitally wide
origin superiorly), catching only the medial border of the rectus sheath, progressing down and passing to one side of the umbilicus but locking frequently to prevent cheese wiring with the repair ending just above the suprapubic area using a single buried knot. A larger suture, especially double suture, has less risk of “cheese wiring” and the early strength of repair is proportional to the suture strength, tissue fragility, and later with scar integration incorporating suture and scar in a similar principle as reinforced concrete. If the lipocutaneous mobilization and narrow epigastric tunnel technique, as described in this paper, is used then this effectively closes the subcutaneous space in the epigastrium. If the Scarpa’s fascia in the lower abdomen is medially advanced to close any deep space then the continuous nylon suture will be covered and the repair of divarication is, to some extent, reinforced.

Whilst these are critical comments they are mainly concerned with personal preference in technique and it appears from this paper that a single 2/0 nylon repair provides a sound repair within a very acceptable time frame for wound closure.

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REFERENCES