Bowel anastomosis. *A comparative study of various surgical techniques*

To the Editor

I read with great interest the elegant paper by Abdulkarim A. El-Bakry published in a recent issue of the Saudi Medical Journal.[1] I have the following comments about this experimental study. 1. The study was conducted to test the different techniques in small bowel anastomosis; however, the title of the paper is less precise as it gives the impression that this study includes small and large bowel anastomosis. Blood supply, bowel wall strength and leak rate are different in different parts of the bowel and in different parts of the large bowel "right side versus left side." Thus, the title should have been "Small bowel anastomosis" to be more specific. In addition, at the end of the paper the author recommends the use of mechanical suture (stapler) for bowel anastomosis whenever clinically feasible, but since this study was carried out in the small bowel only, the recommendation should have been specific for that part of the bowel. 2. The major end-point in this study is the tensile strength "weight needed to disrupt the anastomosis ex-vivo." However, what is the clinical implication or relevance of this difference in the clinical setting? And does this translate into a difference in the leak rate? Or does the small bowel ever subjected to 0.6 kg of force in vitro to make this difference clinically important? 3. The other end points mentioned were the amount of peritoneal fluid and adhesions seen at the second laparotomy. These end points were not clearly measured and quantified objectively. 4. It appears from the description of the methods used that the small bowel was opened longitudinally thus converting the tubular bowel into a strip. I wonder if this will have an effect on the tensile strength. 5. The time between the removal of the bowel and the measurement of the tensile strength is an important factor that was not mentioned in the paper. This time should be similar for all pieces of bowel to equalize the autolysis factor when the bowel is left ex-vivo.

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Reply from the Author

I read with interest the comments of Dr. Abdulmajeed Al-Abdulkareem regarding my previous publication.[1] Firstly, the ileum which was chosen to conduct the study on, is clearly mentioned in the text; of course, we are aware of the difference between not only small and large bowels but also between various parts of small bowels like ileum versus jejunum in terms of blood supply and leak rate. Our recommendations at the end of the paper to use mechanical suture (stapler) for bowel anastomosis whenever clinically feasible were based upon the fact that our results matched previous results mentioned in the literature for various parts of the bowels. Secondly, the tensile strength is considered as an indicator of sound healing for which reason it was chosen to be tested. This would answer points 2 and 4. Thirdly, regarding the amount of peritoneal fluid and adhesions seen in the second laparotomy were not measured and quantified objectively? The answer is: these are representative of the body response and clinical observations. However, the quantitative measurement is in the histopathological studies, which demonstrated clearly in the amount of cellular reaction and the amount of collagen fiber in each of the study. Lastly, regarding the time between the removal of the bowel and the measurement of the tensile strength. This was immediately carried out as soon as the specimen was taken out of the abdominal cavity.

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References

1. El-Bakry AA. Bowel anastomosis: A comparative study of various surgical techniques. ***Saudi Med J*** 2002; 23: 1232-1236.