

Modified Mayo Technique for Ventral Hernia Repair: A Experimental Study

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Abstract

Background: To reduce the rate of recurrence of incisional hernia repair associated with open anatomic techniques, we present an experimental study, focusing on two different sutures, with the aim to apply clinically in a revised version of the Mayo technique.

Methods: Thirteen biological tissue samples from adult pig central brawn and upper and lower fasciae were measured using two techniques defined as “unbroken suture thread” and “separated suture stitches” to test the breaking resistance of the two types of suture.

Results: The t test results show that the two sets can be considered as different populations. The mean tensile stress s_{max} is greater (with reduced deviation) for the specimens of the set sutured with unbroken thread technique. Student’s t-test performed on values obtained for each set of samples indicated that the unbroken thread suture technique corresponds to higher ultimate failure strength.

Conclusion: Considering these results, a modified Mayo technique with continuous closure could be suggested. Of course a valid clinical study is required to better clarify this experimental hypothesis.

Key words: ventral hernia, open hernia repair, Mayo technique, open surgery