

Does a Reinforced Biologic Mesh Decrease Hernia Recurrence Compared to Pure Biologics?

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Introduction:

Both biologic and permanent (synthetic) mesh is used for abdominal wall reconstruction. Biologic Mesh has the advantage of eventual incorporation which makes it generally preferred in contaminated patients compared to synthetic mesh. However, synthetic mesh has been shown to have decreased long term hernia recurrence despite increased complications. Ovitex (Aroa Biosurgery, Ltd. 2 Kingsford Smith Place, Airport Oaks, Auckland 2022, New Zealand) is a combined reinforced biologic mesh with a permanent prolene suture weave that theoretically combines incorporation with a long term strength component. We hypothesize that a reinforced biologic will have a similar complication profile, but decreased long term hernia recurrence.

Methods:

A single center retrospective review was performed from January 2013-January 2022 with an average follow up time of 1.8 years. Patient data including 90 day complications, recurrence, co-morbidities, hernia size and re-operations were included. Categorical and continuous variables were analyzed with chi2 and Wilcoxon rank sum tests, respectively. Predictors of postoperative complications and hernia recurrence were analyzed via univariate logistic regression and multivariate logistic regression with backward stepwise selection with a threshold of $p < 0.2$

Results:

304 patients had biologic mesh with bilateral component separation without bridging hernia repair. 72 of these used reinforced biologic mesh. All mesh was placed either retrorectus or intraperitoneal. Intraperitoneal mesh placement of either mesh had increased 90 day complications ($p = 0.026$). no difference was noted in recurrence ($p = 0.57$). There was no significant difference in 90 day complications, or hernia recurrence between reinforced biologic and non-reinforced biologic mesh ($p = 0.57, 0.49$)

Conclusion:

Reinforced vs non-reinforced biologics have similar risk profile and recurrence rate when placed retrorectus with primary fascial repair achieved overtop. Intra-peritoneal placement of mesh of any type results in increased 90 day complications with no increase of recurrence of the hernia. Retrorectus placement of any biologic mesh is acceptable and should be chosen based off surgeon comfort, and anticipated cost saving of individual mesh brands.

Tracks:

Clinical