Primary Fascial Closure With Mesh Reinforcement Results In Lower Complication And Recurrence Rates Than Bridged Mesh Repair For Abdominal Wall Reconstruction: A Propensity Score Analysis

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INTRODUCTION: Previous studies suggest that bridged mesh repair for abdominal wall reconstruction (AWR) may result in worse outcomes than mesh-reinforced primary fascial closure, but many surgeons still use bridged repairs. We compared our outcomes of bridged versus mesh-reinforced repair in AWR procedures.

MATERIALS AND METHODS: This retrospective study included 535 consecutive patients who underwent AWR with underlay mesh. Four hundred eighty four (90.47%) patients underwent mesh-reinforced AWR and 51 (9.53%) underwent bridged repair AWR. We compared outcomes between these two groups using propensity score analysis for risk adjustment in multivariate analysis and for one-to-one matching.

RESULTS: Bridged repairs had a higher hernia recurrence rate (33.3% vs 6.2%, $p<0.001$), higher overall complication rate (58.8% vs 30.0%, $p=0.001$), and worse freedom from hernia recurrence (log-rank <0.001) than reinforced repairs. Bridged repairs also had higher wound dehiscence (25.5% vs 14.3%, $p=0.034$) and mesh exposure (9.8% vs 1.4%, $p=0.003$) rates than mesh-reinforced AWR.
When the treatment method was adjusted for propensity score in the propensity-score-matched pairs ($n=100$), we found that the hernia recurrence (32.0% vs 6.0%, $p=0.002$), overall complication (32.0% vs 6.0%, $p=0.002$), and freedom from hernia recurrence (68.2% vs 31.8%, $p=0.001$) rates were worse after bridged repair. We did not observe differences in wound healing and mesh complications between the two groups.

CONCLUSION: Bridged repair for AWR is associated with worse outcomes than mesh-reinforced AWR. Reinforced repairs should be used for AWR whenever possible.