P101 BIOSYNTHETIC MESH LIMITS ADHESION FORMATION FOLLOWING INCISIONAL HERNIA REPAIR

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**Aim:** Adhesions are fibrous bands of scar tissue that form following peritoneal injury, commonly intra-abdominal surgery, and are associated with serious morbidity such as small bowel obstruction and pain. Surgical meshes used for incisional hernia repair are associated with increased incidence and severity of adhesions. There is limited consensus on which mesh may induce the least adhesions following incisional hernia repair, and most previous data has come from experimental animal models. We aimed to evaluate existing primary research to investigate whether biological mesh limits adhesion formation compared to synthetic or biosynthetic mesh when used in patients for incisional hernia repair and also to assess whether there is correlation with existing animal model data.

**Material and Methods:** A systematic search was conducted on PubMed and EMBASE. The number of mesh-related adhesions, character of adhesions and adhesion-related complications were documented. Results were compared to previously published results from animal models.

**Results:** Thirty-two studies were included, 11 of which did not document whether the adhesions were mesh related. A total of 14,161 participants underwent incisional hernia repair, 8,526 of whom were included in follow-up analysis. Overall, 9.7% developed adhesions. Biological mesh induced a high rate of dense adhesions, whereas bio-synthetic mesh induced loose, filmy adhesions suggested to cause fewer complications. These findings were similar to findings from experimental animal models.

**Conclusions:** Bio-synthetic mesh was superior in causing fewer and less dense adhesions. Further analysis of mesh-induced adhesion formation on a larger scale is required to fully understand the consequences of different mesh types.