Chirurgia (Bucur). 2023;118(6):673-679
http://dx.doi.org/10.21614/chirurgia.2023.v.118.i.6.p.673

Early Outcome after Sublay versus Onlay Polypropylene Mesh Repair for Ventral Midline Incisional Hernia – A Single Center Retrospective Analysis

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Abstract
Context: Onlay and retromuscular sublay mesh repairs are the most frequently used procedures in open repair of midline incisional hernias. The onlay placement of the mesh is simple and fast to perform, while the sublay retromuscular repair offers a supplementary protection against infection, but it is considered a more complicated procedure with a higher risk of early postoperative complications. The personal experience of the surgeons plays an important role in choosing the technique of mesh placement.
Material and methods: This paper presents the results of a retrospective analysis of 220 consecutive patients operated on in the Surgical Clinic of the Mureş Clinical County Hospital (Romania) between 31.01.2017 – 31.12.2019 with sublay or onlay polypropylene mesh repair for ventral midline incisional hernia. The patients were divided into two groups according to the position of the mesh. The two groups were identical in terms of age, sex distribution, incidence of comorbidities (obesity, diabetes mellitus, cardiac and respiratory diseases), number of previous operations and size of the defect (p value >0.05 for all the parameters).
Results: Postoperative mortality was zero, with no statistically significant differences of the duration of the postoperative hospitalization between the two groups $p > 0.05$. A total of 34 early reoperations were required for hematoma, skin necrosis, seroma, wound suppuration, and intestinal obstruction, with no statistically significant difference between the two groups ($p > 0.05$ for the overall and separate incidence of each complication). The onlay placement of the mesh was associated with a later removal of the superficial drains $p < 0.0001$ with a larger proportion of the patients who were discharged without removing the drains (group A 2/62 versus group B 141/168, $p < 0.0001$).
Conclusions: Both the onlay and the retromuscular sublay placement of polypropylene meshes may be used with good results for the treatment of midline incisional hernias. The lack of a supplementary early morbidity after the retromuscular sublay repair is an argument for a more frequent use of this technique which offers a supplementary protection against infection.
Key words: incisional hernia, onlay, sublay, retromuscular, polypropylene, mesh repair