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Use of the Serratus Anterior Muscle Flap for Postoperative Empyema – A Single Center Experience with 25 Consecutive Cases

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Abstract

Objective: The aim of this study is to analyse the possibilities and the results of using the serratus anterior muscle flap during reoperations in patients with a complicated course after major general thoracic procedures.

Material and Methods: We performed a retrospective study on 25 consecutive patients operated in a single center between 01.01.2002-01.01.2012, in whom we used the serratus anterior muscle flap during complex thoracomyoplasty procedures for postoperative empyema. In all cases the serratus anterior was mobilized keeping both the thoraco-dorsal branch and the lateral thoracic vessels intact. The following parameters were followed: mortality rate, morbidity rate, hospitalization, viability of the flap and the functional status of the patients at 3 months after surgery.

Results: We encountered one postoperative death (4%) and one recurrence of the intrathoracic suppuration (4%). Intensive care unit hospitalization ranged between 1-9 days, with a median of 2 days. Overall postoperative hospitalization ranged between 8-87, with a median of 34 days. We have encountered no postoperative flap necrosis. At 3 months after surgery, 92% of the survivors returned to a normal life. The type of the first thoracotomy incision (postero-lateral versus antero-lateral) had no statistically significant impact on the outcome of the patients – hospitalization or rate of local complications ($p>0.05$).

Conclusions: As a pure muscular flap, the serratus anterior is extremely useful to treat infectious complications after general thoracic surgery procedures. It can be used during thoracomyoplasty procedures with an acceptable mortality and morbidity and with good functional results.

Key words: serratus anterior, muscle flap, postoperative empyema

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