ADVANTAGES OF THE SEGMENTAL NONDIVIDED INTERCOSTAL MUSCLE FLAP

To the Editor:

The intercostal muscle has been increasingly used to protect and revascularize bronchial stumps and anastomoses after pneumonectomy, sleeve pneumonectomy, lung transplantation, and bronchial sleeve resection. The muscle can be mobilized with a generous flap of parietal pleura to increase coverage. This flap allows protection of the stump or anastomosis, early revascularization of the bronchus, and prevention of bronchopleural fistula in case of dehiscence. The flap can be easily prepared during thoracotomy, before spreading the ribs, and left posteriorly in the costovertebral groove protected with a wet gauze during the lung procedure. If not used, the flap can be placed again between the ribs while closing the thoracotomy. However, sometimes the need for this flap cannot be anticipated preoperatively (thus, if required, it has not been prepared). Alternatively, a flap prepared while opening the chest, as decided at preoperative workup, would not be required because of intraoperative strategy changes (eg, a simple lobectomy instead of a sleeve resection or pneumonectomy, or an exploratory thoracotomy because of unexpected metastatic disease or locally advanced disease). In these situations, the surgeon would add operative time in preparing the unnecessary flap or have a useless intercostal muscle deeply crushed by the retractor at the thoracotomy site. The latter situation requires mobilization of other flaps.

The segmental mobilization of an intercostal muscle flap has been described and repeatedly advocated to decrease postoperative pain in patients undergoing thoracotomy. This technique avoids crushing the intercostal neurovascular bundle during rib spreading with the retractor. Mobilization from the rib is required only at the level where the retractor is placed and takes only a few minutes, much less than the full isolation of the muscle. At the end of the procedure, the ribs are approximated in the usual fashion according to the surgeon’s preference.

This easy technique is extremely useful to reduce postoperative pain and to make the intercostal flap available in case of unexpected and complicated surgical procedures. Also, if the flap is not required as anticipated at preoperative workup, the minimal segmental mobilization allows easy closure of the chest without further maneuvers and avoids having a “foreign body” in the posterior aspect of the chest during the lung procedure. This technique is now routinely used at our center, speeding chest opening and allowing bronchial protection when required.

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References

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