Letter to the Editor

Harvest of latissimus dorsi muscle for intrathoracic transposition: is it always necessary to harvest the whole muscle?

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We read with interest the paper by Abolhoda et al. about a harvest technique for pedicled transposition of latissimus dorsi muscle, and congratulate the authors [1]. We are used to transpose intrathoracically the whole latissimus dorsi muscle to obliterate an infected apical or mid-thoracic dead space and we use the same technique as described by the authors but we have modified the harvest technique when we use the latissimus dorsi muscle to protect a bronchial stump at risk of bronchial insufficiency.

The latissimus dorsi vasculature is such that vascular supply to the muscle is based on the thoracodorsal vessels. Once these vessels enter the muscle they show a constant division into a horizontal branch and a branch that runs about 2.5 cm medial and parallel to the anterior muscle border [2]; thus an ideal condition for the creation of a split muscle flap with a great rotation arc that can be placed into the chest cavity without tension and can be stuck on the bronchial stump at risk of insufficiency. This split muscle flap is based on the lateral branch only of thoracodorsal vessels that can be easily observed and controlled while raising the flap. This harvest technique is very easy and quicker than the harvest described within our article [2], and the minimal risks involved, allow us to continue to support the use of the whole muscle technique when we use the latissimus dorsi muscle to protect a bronchial stump. The benefits of the whole muscle technique pose a potential risk of tissue avulsion with the nerve, but may be insufficient to obliterate a potential space (e.g. empyema, decortication, etc.) that may accompany a bronchopleural fistula. Furthermore, if the nerve requires transection for increased arc of rotation, there is very little benefit from total muscle harvest until the comfort level with the vascular divisions is sufficient to apply the modification. Also, the split muscle may be enough to cover a bronchial stump, but may be insufficient to obliterate a potential space. In general, the split muscle is a slightly advanced technique, and the majority of surgeons may benefit from total muscle harvest until the comfort level with the vascular divisions is sufficient to apply the modification. We have since now used this technique in 13 patients with bronchial stump at risk of bronchial insufficiency with good results and without any complication.

References


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Reply to Terzi et al.

Whole or split latissimus dorsi muscle for intrathoracic transposition

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Thank you for your insightful comments regarding a modified technique of latissimus dorsi muscle harvest for this complex patient population [1]. We are in agreement that the split muscle can be utilized and may offer benefits in certain circumstances. Rib resection is not required in either circumstance (whole or split muscle technique), but offers the protection of nearly eliminating any risk of pedicle compression. In general, the split muscle is a slightly advanced technique, and the majority of surgeons may benefit from total muscle harvest until the comfort level with the vascular divisions is sufficient to apply the modification. Also, the split muscle may be enough to cover a bronchial stump, but may be insufficient to obliterate a potential space (e.g. empyema, decortication, etc.) that may accompany a bronchopleural fistula. Furthermore, if the nerve requires transection for increased arc of rotation, there is very little benefit to preservation of the remaining muscle segment compared to the benefit of the increased volume to treat the main surgical concern. Finally, if the nerve is not transected, muscle activity poses a potential risk of tissue avulsion with latissimus contraction off of the repair site. The benefits described within our article [2], and the minimal risks involved, allow us to continue to support the use of the latissimus dorsi muscle in this fashion with most, if not all, cardiothoracic surgeons.

References


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