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LEFT ATRIAL APPENDECTOMY COMBINED WITH THORACOSCOPIC LEFT UPPER LOBECTOMY

Video clip is available online.

To the Editor:

Although thoracoscopic left atrial appendectomy has been recently developed as an effective method for preventing cardiogenic thromboembolism,¹ the application of this

VIDEO 1. The left atrial appendage was exposed through pericardiotomy. After resection, thoracoscopic ligation was added to make the stump smooth. Video available at: [http://www.jtcvsonline.org/article/S0022-5223\(18\)30711-6/fulltext](http://www.jtcvsonline.org/article/S0022-5223(18)30711-6/fulltext).

operation is still limited. In thoracoscopic left upper lobectomy, the surgical site is quite similar to that of thoracoscopic left atrial appendectomy, so combined surgery is feasible. When patients with indications for left upper lobectomy (eg, for lung cancer) have had the preoperative complication of atrial fibrillation, we have assumed that additional left atrial appendectomy is acceptable. This

FIGURE 1. Additional ligation made the resection line smooth.

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procedure can be performed safely and with low invasiveness,² and the advantages of decreasing the cardiogenic thromboembolism risk are considered to outweigh the disadvantages of the potential risk accompanying the performance of additional procedures.

The thoracoscopic port sites were determined by thoracic surgeons as optimal for lung lobectomy. A minithoracotomy (approximately 5 cm) for removal of the lung specimen was made in advance; it aided in handling the appendectomy.

After pericardiotomy, while preserving the left phrenic nerve, the left atrial appendage was exposed. The baseline of the left atrial appendage was divided with a thoracoscopic cutter (Video 1). This procedure usually took less than 30 minutes to complete, and left upper lobectomy was started after the left atrial appendectomy.

All patients gave their informed consent for the procedure. The method and indication were approved by the institutional ethics committee for each case.

The tips and pitfalls associated with this technique are as follows:

1. We can take advantage of the minithoracotomy performed to remove the lung specimen. In typical cases of standalone thoracoscopic left atrial appendectomy, we can use only 4 ports. Dissection of the pleural adhesion is important in achieving a safe approach to the pericardium. If the pleural adhesion is severe, it can be quite difficult to accomplish dissection in a totally thoracoscopic manner. In addition, we can more easily deal with emergency severe bleeding (if it occurs) through the minithoracotomy.
2. We should not resect the “atrium,” but rather, the “appendage.” To make a smooth stump, we usually try to approach from the base of appendage, but the bleeding

risk increases if the left atrium is involved in the resected line. Furthermore, the left circumflex branch of the coronary artery runs just beneath the base of the left atrial appendage. We must take care not to injure the circumflex branch. If the stump line is deemed inappropriate, endoscopic ligation can be added to make the stump smooth (Figure 1).

3. The left superior pulmonary vein (LSPV) should be resected in the pericardium in the future. Left upper lobectomy is reportedly associated with an increased risk of postoperative stroke.³ One reason for this is the relatively long stump of the LSPV, because the LSPV in the pericardium is longer than other pulmonary veins. We have not yet attempted LSPV resection in the pericardium; however, it is technically feasible to achieve this approach when appendectomy is performed along with left upper lobectomy.

In conclusion, left atrial appendectomy combined with left upper lobectomy should be considered whenever applicable.

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