



Mediastinal Closure for Coverage of the Bronchial Stump after Right Pneumonectomy

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Keywords

Fistula; Lung cancer surgery; Mediastinum; Pleura; Pneumonectomy

Letter to Editor

Bronchopleural Fistula (BPF) is a serious complication of pneumonectomy and can greatly contribute to morbidity and mortality. The incidence of BPF has been reported to be significantly higher for right than for left pneumonectomy, or lobectomy. To reduce the risk of BPF after right pneumonectomy, we present a simple method that involves burying the stump of the right main bronchus in the mediastinum with a single running suture extending from the superior mediastinum to the hilum.

After the right pneumonectomy, the opened superior mediastinum is closed using a running suture from the superior end of the mediastinal pleura to the azygos vein (Figure 1A). The suture is continued downward beyond the azygos vein in order to bury the stumps of the bronchus, pulmonary artery, and superior pulmonary vein (Figure 1B). The superior and middle mediastinal pleura are sufficiently strong for suturing, but the inferior part is frail and the inferior pulmonary vein often cannot be covered by the suture (Figure 1C). We usually cover the bronchial stump with

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Received Date: 21 Mar 2018

Accepted Date: 28 Mar 2018

Published Date: 30 Mar 2018

Citation:

Terada Y, Gomyoda T, Ota S, Tamari S, Yoshimura T. Mediastinal Closure for Coverage of the Bronchial Stump after Right Pneumonectomy. *Ann Thorac Oncol Res.* 2018; 1(2): 1010.

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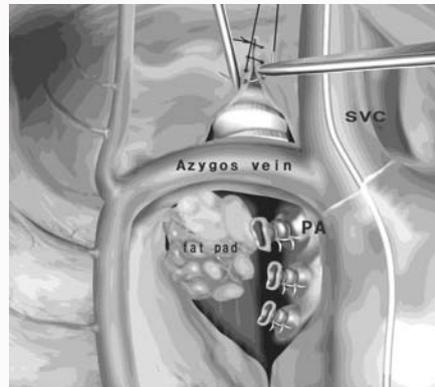


Figure 1A:

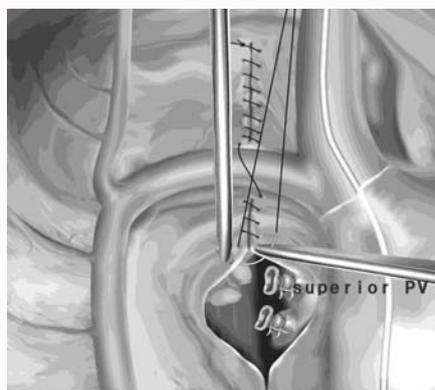


Figure 1B:

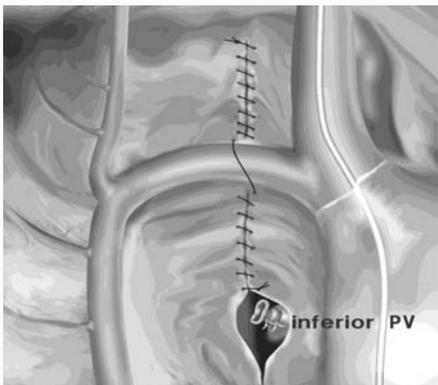


Figure 1C:

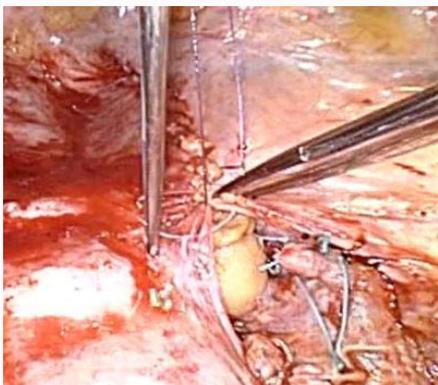


Figure 1D:

free pericardial fat to be buried completely in the mediastinum, but this method of mediastinal closure can be performed with any other type of soft tissue coverage (Figure 1D).

It is still controversial whether coverage of the bronchial stump is effective for preventing postpneumonectomy BPF, but a recent meta-analysis of the effect of bronchial stump coverage failed to show any significant effect [1]. The aim of complete bronchial stump closure is not specifically healing, but rather to ensure that new connective tissue grows around the stump. This procedure takes only a few minutes without the need for additional invasive surgery, and is thought to be more reliable for avoiding BPF after right pneumonectomy.

Reference

1. Di Maio M, Perrone F, Deschamps C, Rocco G. A meta-analysis of the impact of bronchial stump coverage on the risk of bronchopleural fistula after pneumonectomy. *Eur J Cardiothorac Surg.* 2015;48(2):196-200.