



CHYLOTHORAX AFTER LOBECTOMY IN LUNG CANCER; INTRAABDOMINAL DUCTUS LIGATION

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ABSTRACT

Chylothorax is an extremely rare complication of pulmonary resections of lung cancer. Traditionally, it is treatment initiated with drainage, conservative and somatostatin. Later, pleurodesis and intrathoracic ductus mass ligation are other surgical options. In our study, we present a case of chylothorax after lobectomy in lung cancer. Conservative, somatostatin, pleurodesis and intrathoracic ductus mass ligation were not successful. Serious clinical deterioration was observed due to the continued increasing chylous drainage. Since permanent chylothorax is associated with mortality, method was considered for stopping chylous drainage. Treatment was completed with intraabdominal ductus ligation (proximal cisterna chile).

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INTRODUCTION

Chylothorax is an extremely rare complication of pulmonary resections of lung cancer. Traditionally, it is treatment initiated with drainage, conservative and somatostatin. Later, pleurodesis and intrathoracic ductus mass ligation are other surgical options. In our study, we present a case of chylothorax after lobectomy in lung cancer.

CASE REPORT

A 71-year-old male patient was admitted with left flank pain and shortness of breath. Thorax CT in the outer center was reported as a mass lesion in the left lower lobe (Figure 1A). Biopsy performed from the left lower lobe entrance at bronchoscopy was reported as squamous cell lung carcinoma.

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In FDG-PET (fluorodeoxyglucose-positron emission tomography), increased involvement at the level of malignancy was reported (figure 1B) in the right lower paratracheal and subcarinal lymph nodes in the left lower lobe mass (caused destruction of the left 9th rib). Subcarinal and paratracheal lymph node pathology were reported as benign in mediastinoscopic biopsy. The patient underwent en block thoracic wall resection and left lower lobectomy with mediastinal lymph node dissection. Milk white fluid analysis in thorax tube on postoperative 3rd day was reported as compatible with chylothorax. High-protein, low-fat nutritional support was provided. Somatostatin treatment was administered at a dose of 250 µ/h. Oral feeding was stopped, and total parenteral nutrition (TPN) support was provided upon the continuation of chylous drainage. It was stated that lymphangiographic ductus embolization was unperformed in our center. Sterile talc pleurodesis was performed from the thorax tube. Since the daily drainage amount was > 1500 mL, thoracotomy ductus mass ligation was performed after the standard chylothorax procedure. Chylous drainage was observed to continue (2nd day). Despite TPN and somatostatin treatment, daily drainage was observed as 1200-1400 mL.



Figure 1A. Preoperative CT image, 1B: Preoperative FDG-PET image

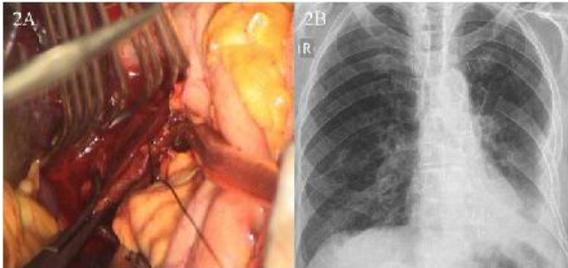


Figure 2A. Intraoperative abdominal ductus image, 2B: Postoperative chest radiography

In the follow-up, hyponatremia, hypoalbuminemia, hypokalemia, impaired general condition, and electrocardiographic changes were observed in the patient. Their treatments were arranged with fluid and electrolyte support. Reoperation decision was made because of the continuation of drainage and clinical disorders in the patient (postoperative 18th day). The thoracic ductus was ligated in the proximal of the infrahiatal cisterna chili with laparotomy (Figure 2A). Thorax tube which was no drainage on postoperative day 21, was removed. The patient was relieved with recovery on the 28th day of her hospitalization (figure 2B). In the 2B stage of lung cancer, oncological treatments continued without recurrence in the 9th month.

DISCUSSION AND CONCLUSION

Chylothorax occurs as a result of damage or blockage of the thoracic duct or its branches that allow lymphatic fluid to return to circulation (1). Traumatic and nontraumatic are the primary causes of chylothorax. The most frequent causes of iatrogenic trauma are thoracic surgery and esophagectomy (2). Mostly, this complication after lobectomy has been reported as 2.1% (3).

Our study is a complication of left lower lobectomy in lung cancer. In the literature, studies have been reported that somatostatin and conservative treatment for postoperative chylothorax have been successful. Duct ligation has been accepted as an appropriate surgical intervention in resistant cases (4). In our case, the ductus was mass ligated with thoracotomy, since resistance to treatment was observed. No success was achieved in a medical, conservative, pleurodesis and thoracic surgery treatments. However, abdominal ductus ligation method was preferred due to continuing chylous drainage, clinical disorders, electrolyte imbalances, and symptoms consistent with losses. Loss of electrolytes, proteins, immunoglobulins and T cells with chylous fluid causes immunosuppression (5). Mortality is significant in resistant and untreated chylothorax cases (6). Intraabdominal ductus or cisterna chile ligation should be kept in mind in cases of refractory chylothorax, despite treatments.

REFERENCES

1. McGrath E, Blades Z, Anderson P. 2009. Chylothorax: aetiology, diagnosis and therapeutic options. *Respir Med.*, 104:1–8.
2. Schild H, Strassburg C, Welz A, Kalff J. 2013. Treatment options in patients with chylothorax. *Deutblatt Int.* 110(48):819–826.
3. Hyun Jin Cho, Dong Kwan Kim, et al. 2014. Chylothorax Complicating Pulmonary Resection for Lung Cancer: Effective Management and Pleurodesis. *Ann Thorac Surg.*, 97:408–13.
4. Bond SJ, Guzzetta PC, Snyder ML, Randolph JG. 1993. Management of pediatric postoperative chylothorax. *Ann Thorac Surg.*, 56:469–472.
5. Wasmuth-Pietzuch A, Hansmann M, Bartmann P, Heep A. 2004. Congenital chylothorax: lymphopenia and high risk of neonatal infections. *Acta Paediatr.* 93:220–224.
6. Sukumaran K, Nair, Matus Petko, Martin P, Hayward. 2007. Aetiology and management of chylothorax in adults. *European Journal of Cardio-Thoracic Surgery.* 32(2):362–369.
