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## Ultrasound-guided intranodal lipiodol lymphangiography from the groin is useful for assessment and treatment of post-esophagectomy chylothorax in three cases



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### ABSTRACT

**INTRODUCTION:** Ultrasound-guided intranodal lipiodol lymphangiography (LAG) from the groin is a recently introduced technique for diagnosing and treating postoperative chylothorax. The benefits of this technique include reduced technical difficulty and shorter procedure duration, as compared to traditional pedal LAG. Although these benefits may eventually increase utilization of intranodal LAG, reports are still few.

**PRESENTATION OF CASES:** Herein, we report three cases of post-esophagectomy chylothorax in whom ultrasound-guided intranodal lipiodol LAG from the groin were successfully performed with no complications. Leak points were clearly identified in the three cases. Cure was obtained in one case by the LAG only. Surgical ligations were performed after LAG in two cases and cures were achieved.

**DISCUSSION:** If LAG successfully cured chylothorax, chest drain output would decrease dramatically and the leaked lipiodol could be confirmed near the leak point in plain computerized tomography (CT) in the following 1–2 days. But if LAG failed to cure, chest drain output would be unchanged and the leaked lipiodol would be found diffusing in the surrounding.

**CONCLUSION:** Ultrasound-guided intranodal lipiodol LAG from the groin is a minimally invasive and easily performed procedure with high diagnostic and therapeutic value for postoperative chylothorax. If LAG failed to cure, conservative management is often insufficient and surgical ligation should be performed as soon as possible.

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## 1. Introduction

Postoperative chylothorax are rare complications after esophagectomy, with incidences of approximately 2.7% to 3.8% [1]. Because these conditions can sometimes be life threatening if not properly treated, prompt diagnosis and early intervention are necessary. Lipiodol lymphangiography (LAG) has been used in the past to identify sites of chylous. Recent reports also indicate that lipiodol LAG is therapeutic for conventionally untreatable chylothorax [2,3]. Traditionally, lipiodol LAG is performed from pedal lymphatic vessels which are very thin to be identified [4].

Both isolation and cannulation are technically difficult and time-consuming. It also takes time to wait infused lipiodol flowing from pedal lymphatic vessels to groin. Recently, two groups demonstrated the feasibility of using ultrasound-guided intranodal LAG from the groin as an alternative to pedal LAG, achieving success rates of 100% and 87%, respectively [5,6]. The benefit of this novel approach includes reductions in both technical difficulty and procedure duration. But although the proposed benefits of intranodal LAG from the groin may eventually increase the utilization of this novel technique, reports of its use are still few. Herein, we report three cases of post-esophagectomy chylothorax in whom ultrasound-guided intranodal lipiodol LAG from the groin were successfully performed with no complications.

**Abbreviations:** LAG, lipiodol lymphangiography; CT, computerized tomography; POD, postoperative day; UICC, the Union for International Cancer Control; CDDP, cisplatin; 5-FU, 5-fluorouracil.

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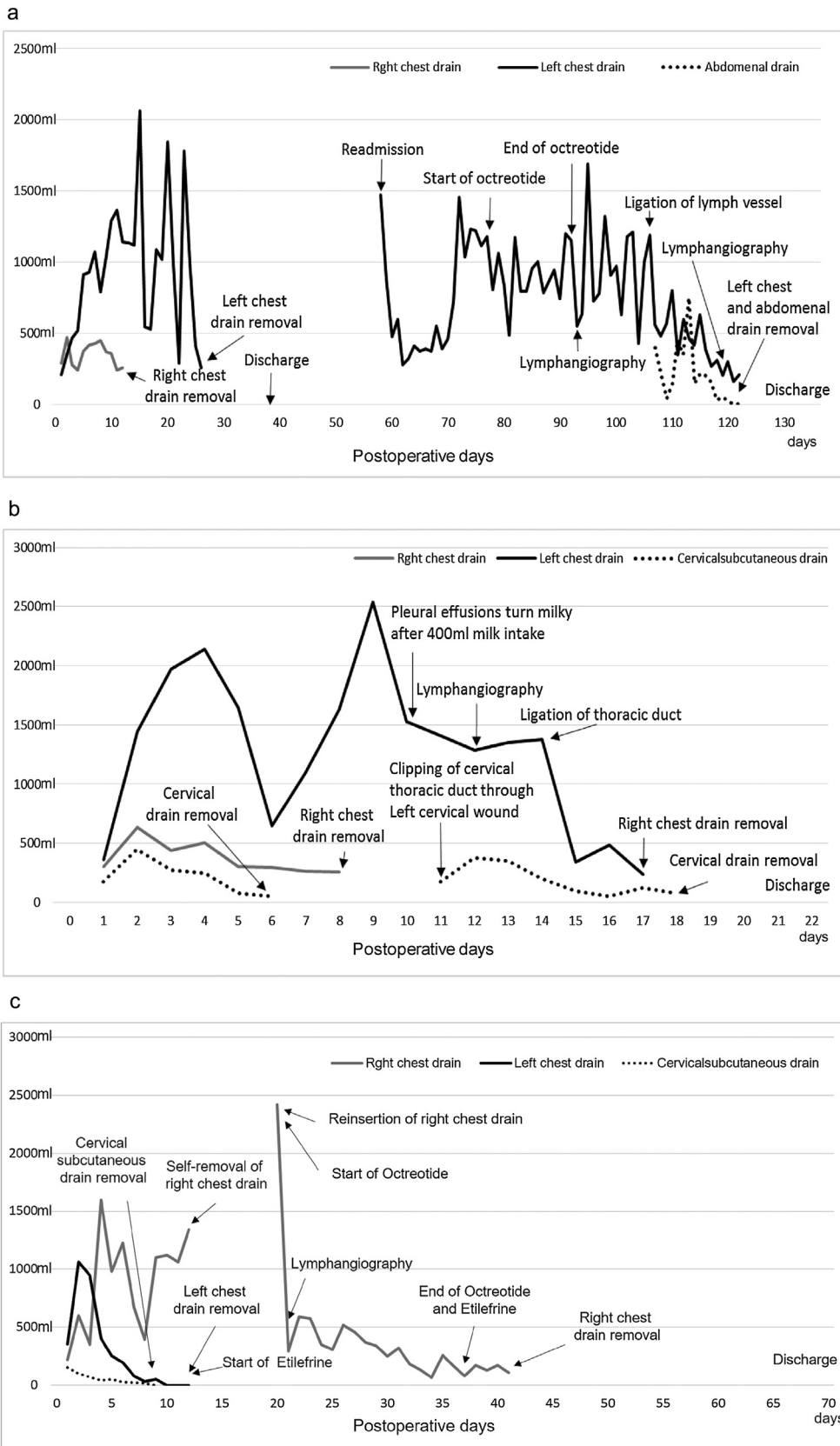


Fig. 1. (a) Clinical course of case 1. (b) Clinical course of case 2. (c) Clinical course of case 3.

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