Clinical Case Reports International

Case Report
Published: 09 Mar, 2022

Chylothorax Following Childbirth: A Rare Complication Where Interventional Treatment Seems Mandatory

Arthur Streit, Joseph Seitlinger, Joëlle Siat and Stéphane Renaud*

Department of Thoracic Surgery, Nancy University Hospital, France

Abstract

Chylothorax following childbirth is a rare entity, with only 3 cases described in the literature. We are reporting the case of a 31 years-old Caucasian woman who developed a chylothorax following childbirth, for which interventional radiology was the only successful treatment, after failure of conservative treatments. Regarding the few published cases and our, it seems that interventional treatment should be proposed as soon as postpartum chylothorax is diagnosed. It seems that interventional radiology, because of its small morbidity, should be considered first.

Keywords: Chylothorax; Childbirth; Lymphography

Introduction

Chylothorax is an uncommon type of pleural effusion, caused by leak of chyle into the pleural space due to a lesion of the Thoracic Duct (TD).

Its etiologies are usually classified as traumatic and non-traumatic. Traumatic causes are mainly represented by surgical trauma. However a less frequent mechanism consists in intra-thoracic hyper pressure caused by Valsalva maneuver. This can happen during the peripartum period, defining the postpartum chylothorax, whose management remains to date little consensual.

In this case report we describe for the first time chylothorax after childbirth treated by interventional radiology.

Case Presentation

A 31 years-old Caucasian female, without any significant past medical history, whose pregnancy was uneventful, presented to the emergency room for a left thoracic pain 1 month following childbirth. A chest CT-scan (Figure 1A) disclosed a left-sided pleural effusion without any other abnormality. Diagnosis of chylothorax was performed following thoracocentesis.

After failure of a 3 months long-chain triglycerides free diet, the patient was referred to our department of thoracic surgery. A thoracic MRI, without injection of contrast (Figure 1B), was performed to study the anatomy of the TD, disclosing a TD in classical anatomical position, where as a lymphoscintigraphy revealed a chyle leak at T10 level (Figure 1C).

A surgical intervention was then decided, consisting in right thoracoscopic ligation of the TD (Figure 2A), at the level of the pulmonary ligament. An en bloc ligation was performed taking the TD and all the surrounding fatty tissue between the azygous vein and the esophagus. Unfortunately, a recurrence of the chylous leak was noted following regular food resumption.

Because the patient was reluctant to undergo a new surgery, a lymphography was performed. It disclosed a plexiform organization of the TD under the diaphragm with the presence of an accessory lymphatic duct. A leak of contrast was highlighted at this level, located below the surgical clips (Figure 2B). This examination also allowed guiding the percutaneous cisterna chyli puncture and a successful TD embolization (Figure 2C).

Post-operative period was uneventful. The patient resumed a regular food 7 days after the procedure, without any evidence of new chyle leak.

Discussion

There are no specific recommendations for the treatment of chylothorax. However, it is admitted that for low outputs (<500 mL/day) conservative treatment can be preferred, where as immediate interventional treatments are preferable for high ones (>1, 5 liters per day) [1].

OPEN ACCESS

Correspondence:
Arthur Streit, Department of Thoracic Surgery, Nancy University Hospital, 5 rue du Morvan, 54500 Vandoeuvre-lès-Nancy, France, Tel: +33686314001; E-mail: arthur.streit@chru-nancy.fr

Received Date: *11 Feb 2022*
Accepted Date: *28 Feb 2022*
Published Date: *09 Mar 2022*

Citation:
Streit A, Seitlinger J, Siat J, Renaud S. Chylothorax Following Childbirth: A Rare Complication Where Interventional Treatment Seems Mandatory. Clin Case Rep Int. 2022; 6: 1296.

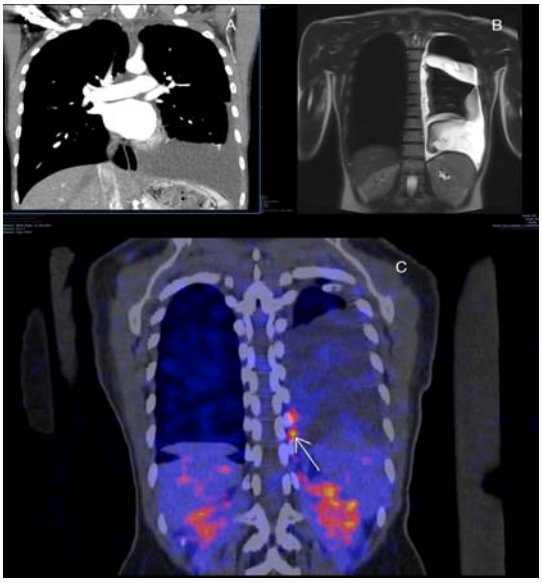

Figure 1: Imaging results: A). Chest CT scan disclosing left pleural effusion; B). MR Lymphangiography; C). Lymphoscintigraphy showing a leak at T10 level (white arrow).

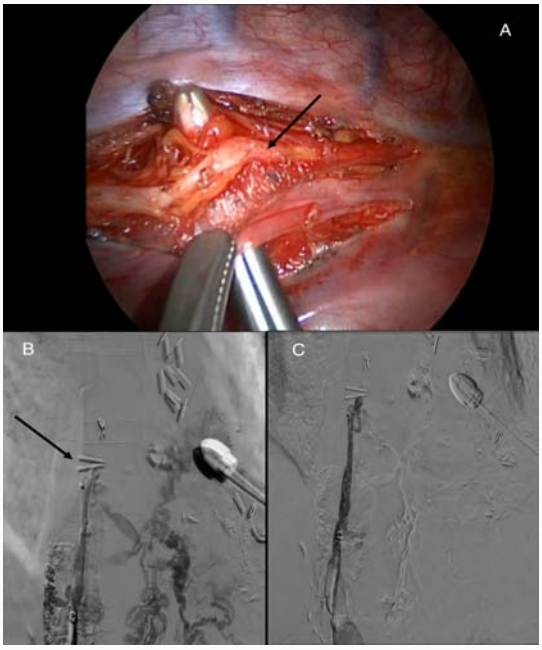

Figure 2: interventional treatments: A). control of the thoracic duct (black arrow) in right VATS; B). Lymphography showing a plexiform arrangement of the thoracic duct under the diaphragm with the presence of an accessory lymphatic duct in addition to the main duct. A leak of contrast product is highlighted below the surgical clips. The black arrow shows the surgical clips; C). Last injection of contrast at the end of the procedure showing no residual leakage.

Postpartum chylothorax is a rare entity, for which management is not well defined. Indeed, so far only 3 cases have been described in the published literature [2-4].

Tornling et al. [2] have described in 1987 one case of chylothorax after childbirth for which conservatory treatment failed and needed surgical management. Same findings were reported by both Camerata et al. [3], and Momose et al. [4], with need for surgical treatment. In line with these data, conservative treatment failed in our patient. One can thereby wonder whether interventional treatment should immediately be considered in the management of chylothorax following childbirth. Two options are then possible: surgical treatment or Interventional Radiology (IR). Compared to the surgical option, IR has the advantage of being less invasive, and possibly leading to both diagnostic and treatment of the leak.

In the published literature, the sensitivity of MR lymphangiography and lymphoscintigraphy for the detection of atypical lymph vessel reach 100% and 79%, respectively [5]. However, in our case both exams failed to demonstrate the anatomical variation of the thoracic duct, particularly its plexiform sub-diaphragmatic distribution, and the presence of an accessory channel finally highlighted by lymphography. However, in our case the MRI was performed without injection of contrast possibly decreasing its diagnostic capacities.

In conclusion, although few cases are so far reported, it seems that interventional treatment should be immediately considered in the management of chylothorax following childbirth. IR, in particular lymphography, seems to have the advantages of being possibly diagnostic and therapeutic. If MR lymphangiography is performed, it should always be with injection of contrast.

Acknowledgement

We would like to thank the department of interventional radiology for its assistance in analyzing imaging and writing this case.

References

1. Schild HH, Strassburg CP, Welz A, Kalff J. Treatment options in patients with chylothorax. Dtsch Arztebl Int. 2013;110(48):819-26.
2. Tornling G, Axelsson G, Peterffy A. Chylothorax as a complication after delivery. Acta Obstet Gynecol Scand. 1987;66(4):381-2.
3. Cammarata SK, Brush RE, Hyzy RC. Chylothorax after childbirth. Chest. 1991;99(6):1539-40.
4. Momose M, Kawakami S, Koizumi T, Yoshida K, Kanda S, Kondo R, et al. Lymphoscintigraphy using technetium-99m HSA-DTPA with SPECT/CT in chylothorax after childbirth. Radiat Med. 2008;26(8):508-11.
5. Notohamiprodjo M, Weiss M, Baumeister RG, Sommer WH, Helck A, Crispin A, et al. MR Lymphangiography at 3.0 T: Correlation with lymphoscintigraphy. Radiology. 2012;264(1):78-87.