

LETTERS TO THE EDITOR

Isolated primary chylopericardium

To the Editor:

We read with interest the article by Furrer and associates,¹ "Isolated Primary Chylopericardium: Treatment by Thoracoscopic Thoracic Duct Ligation and Pericardial Fenestration." We congratulate them for this first case of isolated primary chylopericardium managed by video-assisted thoracoscopy. However, we think the authors should clarify certain points.

Once the diagnosis of chylothorax has been established, chest tube insertion and a medium-chain triglyceride diet are usually used for 2 weeks. If leakage persists at this time, pleuroperitoneal shunting or thoracotomy for ligation of the thoracic duct is suggested. However, no such approach to isolated primary chylopericardium has been described in the literature. As pointed out in the latest review by Akamatsu and associates,² 10 of 79 patients in the literature received conservative treatment, six (60%) of whom had reaccumulation of chylous fluid. Did the authors try any conservative treatment, such as pericardial tube drainage and a medium-chain triglyceride diet, for their patient?

On the other hand, when conservative therapy is ineffective, surgical therapy is the only means of treating the patient and avoiding later progression of cardiac tamponade or constrictive pericarditis.³ If conservative management was not attempted in the patient, why did the authors wait to operate until the cardiac tamponade had developed?

We had a patient with isolated primary chylopericardium who was unresponsive to conservative treatment with pericardial tube drainage and a medium-chain triglyceride diet. We performed an operation, and 3 hours before the operation we infused 250 ml of olive oil through a nasogastric tube to fill the duct with milky chyle. This allowed us to recognize the duct throughout the course of the operation. Did the authors infuse olive oil to make the duct readily recognized?

Another point is the approach to the thorax. Whereas Ross⁴ and others suggested that the most favorable site for ligation of the thoracic duct in the mediastinum is on the right side, Akamatsu and his coworkers² suggested that left thoracotomy is a better approach than right thoracotomy. Thus there is no agreement on the best operative site in the literature. We performed a left thoracotomy with no problem. We would like to know why the authors chose the right-sided approach and what their opinion is about this subject?

What was the reason for the loculated residual effusion 1 month after the operation? Some authors believe that a larger pericardial window can be created easily through a left thoracotomy.² Could that be the reason for the postoperative pericardial effusion at 1 month, since a right-sided VATS had been performed in this patient?

In the article, "mass ligation" had been recommended as the operative procedure. However, instead of mass ligation, ligation and resection of the thoracic duct is now suggested. Finally, long-term follow-up is suggested,⁵ but we think that the follow-up reported for this patient is not long enough. In our case, 6 months' follow-up showed no accumulation of pericardial fluid.

We are interested in reading the authors' comments on these subjects.

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Reply to the Editor:

Yüksel and associates have addressed some interesting points concerning the treatment of isolated primary chylopericardium. Although percutaneous pericardial drainage combined with a medium-chain triglyceride diet is recommended as the initial approach,¹ we did not follow this conservative strategy in our patient because of the rapid recurrence of pericardial fluid accumulation with development of cardiac tamponade within 14 days after echocardiographically guided pericardiocentesis. The patient was then referred to our surgical department, and pericardial fenestration with ligation of the lymphatic duct was chosen as a straightforward procedure. Pericardial evacuation was strongly indicated in any case, and repeated pericardiocentesis and dietary treatment were not attempted because of the high probability of recurrence² in the case of such rapid development of pericardial effusion. We believe that the minimally invasive approach as described in our brief report³ is simple, efficient, and cost effective. Conservative attempts should be restricted to children

or patients at high risk with slow progression of chylopericardium.

Unlike chylothorax, chylopericardium should not result in visible leakage of the thoracic duct. Therefore intraoperative attempts at duct visualization seems nonessential. We favor "mass ligation," as recommended by Murphy and Piper,⁴ allowing a complete interruption of all possible lymphatic vessels, especially in the case of double or triple ducts at this level.⁵ For this technique the right-sided approach is more appropriate and is preferred by most authors.⁶

In our patient the minimal amount of loculated pericardial fluid was on the right side and hardly visible on echocardiographic follow-up after 1 month. We do not believe that this fluid is related to the size of the pericardial window, as suggested by Yüksel and coauthors, because we had performed a partial pericardiectomy of 7×5 cm on the right side. In our experience, the extent of pericardial fenestration on the left is also limited by the inherent possibility of heart herniation through the pericardium. Long-term follow-up was not suggested in our report, but we can update our case report now by an uneventful radiologic and clinical 2-year follow-up.

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Technique for one-lung ventilation during video-assisted thoracoscopic surgical interruption of patent ductus arteriosus in children

To the Editor:

Subsequent to the initial half dozen cases of patent ductus arteriosus (PDA) done with the use of video-assisted thoracoscopic surgery (VATS), we have modified the technique of one-lung ventilation for VATS. We now achieve right-sided one-lung ventilation by intubating the right main-stem bronchus. Right main-stem bronchial intubation is performed by insertion of

a single-lumen endotracheal tube with left-facing bevel (with the tip of the endotracheal tube to the right of center) deep into the tracheobronchial tree. This results in right main-stem intubation in 100% of cases. After induction of anesthesia and endotracheal intubation, bilateral air entry is checked and the single-lumen endotracheal tube is advanced deeply and then withdrawn slowly until breath sounds are heard all over the right hemithorax and no breath sounds on the left hemithorax. The length of the endotracheal tube needed to achieve this single lung ventilation is noted on the external surface of the tube, and then the tube is withdrawn further to maintain double lung ventilation during positioning and draping of the patient. Once thoracostomies are performed for VATS, one-lung ventilation is achieved by inserting the endotracheal tube to a distance noted previously. By means of this technique, the left lung is totally unventilated and collapsed to the entire satisfaction of the anesthetic and surgical team. During one-lung ventilation, the inspired oxygen fraction is increased to 100%, tidal volume reduced by 20%, and respiratory rate increased by 20%. The monitoring includes electrocardiogram, direct arterial pressure, central venous pressure, pulse oximetry, end-tidal carbon dioxide analysis, and blood gas analysis. This method of one-lung ventilation is simple (no extra equipment/bronchoscopy is required) and safe (no risk of slippage of the blocker).

We have used this technique of right main-stem intubation for VATS during operations for PDA in 45 children, ages ranging from 6 months to 9 years (mean 3.6 years) and weights ranging from 8 to 27 kg (mean 15.7 kg). Now we are routinely performing PDA clipping through VATS using right main-stem bronchial intubation and have abandoned the new technique of one-lung ventilation described by Vakamudi and associates¹ in favor of right main-stem bronchial intubation for obvious reasons.

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Tumor dissemination after video-assisted thoracic surgery: What does it mean?

To the Editor:

We read with interest the recently published article on tumor dissemination after video-assisted thoracic surgery (VATS) in 21 cases by Downey and colleagues.¹ The authors conclude that thoracoscopic wedge excision of a lung cancer is an inadequate cancer operation