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CASE REPORT

MINIMAL INVASIVE SURGICAL MANAGEMENT OF TRAUMATIC CHYLOTHORAX: A RARE CASE REPORT

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ABSTRACT

Chylothorax is a rare clinical entity which is characterised by leakage of lymphatic fluid into the pleural cavity from the thoracic duct. We present a case of traumatic chylothorax following a Road Traffic Accident in a 60 year old female which was managed with minimal invasive surgical approach.

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INTRODUCTION

Chylothorax is a rare clinical entity which is characterised by leakage of lymphatic fluid into the pleural cavity from the thoracic duct.[1] Malignancy and iatrogenic disruption of the thoracic duct during surgery are the common causes of chylothorax.[2] It is associated with complications like respiratory compromise, malnutrition and lymphopaenia-associated immunosuppression [3]. We present a case of traumatic chylothorax following a Road Traffic Accident in a 60 year old female which was managed with minimal invasive surgical approach.

Case Report

A 60 year old female patient had a history of road traffic accident (RTA) three weeks back. Initially, the patient was managed at a local hospital where chest X ray showed fracture of right 9th and 11th rib with bilateral pleural effusion. Computed Tomography (CT) Scan also showed moderate bilateral pleural effusion. Bilateral Intercostal Chest tube Drainage (ICD) was placed which initially drained blood on the first day and then started draining chyle two to three litres per day. The left drain dried up gradually and was removed by the second week, but the right drain still drained chyle

approximately one and half litres per day. Thus the patient was referred to our hospital with complains of non-resolving right chylothorax. Systemic examination was within normal limits. On chest examination, air entry was decreased on the right side. Hemogram, Liver function tests and renal function tests were within normal limits. We planned a Video-assisted thoracoscopic surgery (VATS). Intraoperatively, transected thoracic duct with ongoing leak was seen (Figure – 1). Thoracic duct ligation clipping was done. Hemlock was applied at the stump and covered with vessel sealant (Figure – 2). Patient made uneventful recovery after surgery. Right ICD drain was removed on third post-operative day when there was minimal serous drain. The patient was subsequently discharged and was last reviewed after one year of follow-up with clinic-radiologically disease free status.

DISCUSSION

Chylothorax is a rare clinical entity which is caused by leakage of lymphatic fluid into the pleural cavity from the thoracic duct. [1] Most common cause of chylothorax is malignancy and iatrogenic disruption of the thoracic duct during surgery such as oesophagectomy or pneumonectomy.[2] Blunt trauma causing chylothorax is less common, and is often associated with fractures of ribs and/or spinal fractures (as in the index case). It is associated with complications like respiratory

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compromise, malnutrition and lymphopaenia-associated immunosuppression.[3] Diagnosis is based upon the lipid content of the pleural fluid with presence of chylomicrons in fluid being a useful additional diagnostic tool. [4]



Fig 1 Intraoperative photograph showing transected thoracic duct with ongoing leak



Fig 2 Intraoperative photograph showing repair

With the loss of large volume of lipid- and lymphocyte-rich fluid as chyle leak, nutritional support of these patients is of significant importance to prevent malnutrition, dehydration and immunosuppression. A diet with a predominance of medium chain triglycerides reduces lymphatic flow and thus minimises the rate of chyle leakage. [3]

When a chylothorax is large enough to cause respiratory distress, removal of fluid via intercostal chest drain is indicated. [4] Intercostal drainage is also useful in that output volumes and rates can be measured accurately. Octreotide has also been used successfully in reducing chyle leakage when output remains high even with administration of a medium chain fatty acid diet. [5]

Octreotide is useful as an adjunct to surgical management or where surgical management is not desired or contraindicated. When chyle drainage remains copious even with conservative measures, thoracic duct ligation (either via thoracotomy or thoracoscopically) is required with approximately 90% successful results.[6] Minimally invasive surgery has been used with encouraging results and better patient compliance as in the index case. [7]

CONCLUSIONS

Traumatic chylothorax is a rare clinical entity. Initial management is conservative treatment but often patient requires surgical intervention in non-responding cases. Minimal invasive surgery with VATS is safe with better patient compliance.

References

1. Merrigan BA, Winter DC, O'sullivan GC. Chylothorax. British journal of surgery. 1997 Jan 1; 84(1):15-20.
2. Doerr CH, Allen MS, Nichols FC, Ryu JH. Etiology of chylothorax in 203 patients. In Mayo Clinic Proceedings 2005 Jul 31 (Vol. 80, No. 7, pp. 867-870). Elsevier.
3. Nair SK, Petko M, Hayward MP. Aetiology and management of chylothorax in adults. European journal of cardio-thoracic surgery. 2007 Aug 1; 32(2):362-9.
4. McGrath EE, Blades Z, Anderson PB. Chylothorax: aetiology, diagnosis and therapeutic options. Respiratory medicine. 2010 Jan 31; 104(1):1-8.
5. Al-Zubairy SA, Al-Jazairi AS. Octreotide as a therapeutic option for management of chylothorax. Annals of Pharmacotherapy. 2003 May 1; 37(5):679-82.
6. Paul S, Altorki NK, Port JL, Stiles BM, Lee PC. Surgical management of chylothorax. The Thoracic and cardiovascular surgeon. 2009 Jun; 57(4):226-8.
7. Peillon C, D'hont C, Melki J, Fattouh F, Perrier G, Dujon A, Testart J. Usefulness of video thoracoscopy in the management of spontaneous and postoperation chylothorax. Surgical endoscopy. 1999 Nov 1; 13(11):1106-9.

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