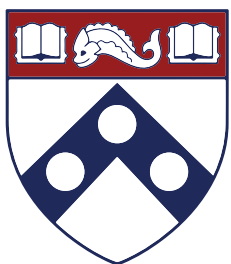


Functional Outcomes Following Microsurgical Thoracic Duct Lymphovenous Bypass

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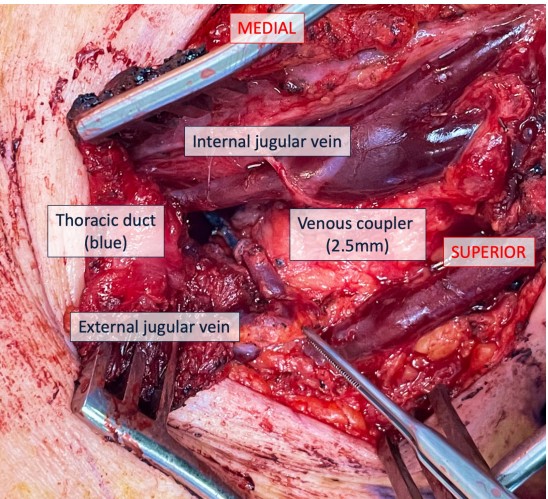
INTRODUCTION

- The thoracic duct (TD) is the primary lymphatic conduit of the body and courses intrathoracically, originating from the cisterna chyli in the abdomen and draining into the left subclavian vein
- Central lymphatic obstruction can occur when the TD becomes occluded secondary to trauma, neck instrumentation, or congenital deformities
- TD occlusion is highly morbid, leading to chylous effusions, chylous ascites, and lymphedema
- TD bypass has emerged as treatment for refractory cases, but functional outcomes remain unknown¹⁻⁴

METHODS

- A retrospective review of all nonsyndromic patients undergoing TD bypass between 2019-2022 at the University of Pennsylvania was performed.
- All cases were performed with intraoperative lymphangiography by interventional radiology.
- Surgical details were collected from operative logs
- Preoperative functional status was determined at the baseline preoperative visit
- Postoperative function was compared to baseline presentation at the time of initial evaluation at two months.

RESULTS



Characteristic	Value (n=15)
Underwent TD bypass	15
Male	6
Female	9
Age (yr), mean (SD)	47.7 (14.3)
Presenting symptoms	
Chylous ascites	10
Chylothorax	7
Lymphedema	7
PLE	6

PLE = protein-losing enteropathy

- A total of 15 patients underwent TD bypass with a mean age of 47.7
- The most common presenting pathology was chylous ascites
- Eight patients had isolated distal TD occlusion without intrathoracic TD pathology
- Five patients experienced complications (2 SSI, 2 TD leak, 1 seroma)

Functional Outcome	Isolated distal TD occlusion (n=8)	Congenital TD malformation or proximal occlusion (n=7)
Positive treatment response		
Improved lymphedema	4	0
Improved chylous ascites	3	0
Improved chylothorax	0	1
No functional change		
Persistent chylous ascites	0	4
Persistent chylothorax	0	2

- Eight patients experienced functional improvement, seven of whom had isolated distal TD occlusion

CONCLUSIONS

- TD occlusion is highly morbid, associated with debilitating chylous pleural effusions, chylous ascites, protein losing enteropathy, and lymphedema and has few treatment options
- TD lymphovenous bypass is a promising emerging therapy with refractory central lymphatic obstruction due to thoracic duct occlusion
- Patient selection remains critical in central lymphatic surgical intervention
- Patients with isolated distal TD occlusion are most likely to see positive treatment response
- Treatment responses ranged from improved peripheral lymphedema to improved chylous ascites and chylothoraces

Citations

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