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“What To Do When Contraindications Prevent a Severely Cirrhotic Patient from Receiving a TIPS Procedure or Liver Transplant? – The Effect of Endovascular Lymphatic Decompression via Thoracic Duct Stent Placement on Clinical Outcomes in Severe Cirrhosis with Refractory Ascites”

Introduction: Acute decompensated cirrhosis with a Model for End Stage Liver Disease (MELD) score > 30 has a 1-year mortality rate exceeding 60%¹. While Transjugular Intrahepatic Portosystemic Shunts (TIPS) and liver transplantation has been proven to reduce mortality (odds ratio =0.62), many patients have absolute contraindications to a both procedures, necessitating the development of alternative therapies^{3,4}. In recent years, novel endovascular lymphatic decompression via thoracic duct stent placement has been seen as a potential solution, though the majority of evidence supporting its use is limited to a few case series since 2020⁵. No meta-analyses have yet evaluated its efficacy and its clinical utility remains largely unrecognized by many providers⁷. This study aims to perform a systematic review of the literature surrounding endovascular lymphatic decompression via thoracic duct stent placement and combine it with anecdotal evidence from UMC hospital in New Orleans in order to evaluate the procedures efficacy, increase physician awareness, and improve patient outcomes.

Methods: A systematic search for existing literature was performed using google scholar, pubmed, and JAMA Network. Search terms included refractory ascites, thoracic/lymphatic duct dilation, and lymphatic stent. 19 studies were identified, and 5 met inclusion criteria for this systematic review, which required human outcome markers in patients with refractory ascites treated with lymphatic duct dilation or stent placement^{7,8,9,10,11}. Animal models and studies without clinical outcomes were excluded.

Results: Collectively the studies examined 25 patients. Of these, 11 had refractory ascites from cirrhosis and 14 had chylous ascites. Clinical improvement was seen in 3/9 (33%) of the cirrhotic patients and 9/14 (64%) of those with chylous ascites.

Discussion: Thoracic duct dilation has shown limited value in treating cirrhotic patients with refractory ascites to date. This population, however, already has a high 1-year mortality rate making even small improvements in patient outcomes meaningful. There is additional literature suggesting variations in procedural technique may impact patient outcomes and these avenues have largely been unexplored⁹. Furthermore, the optimum pre and post procedural thoracic duct pressures to have yet to be quantified and could substantially impact outcomes^{7,8,9}. More research is needed to establish the procedure's efficacy, optimize its use, and ultimately improve the lives of patients in this high-risk group.

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