

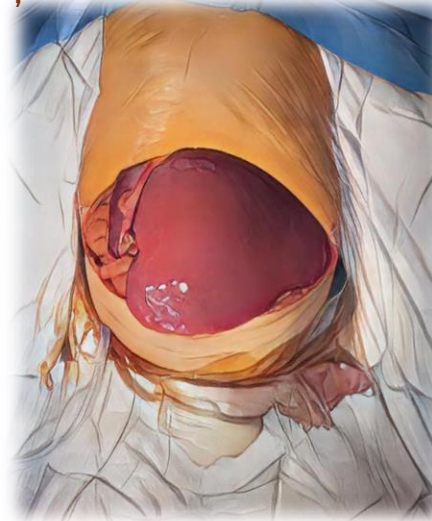
Vacuum-Assisted Laparostomy for Delayed Abdominal Closure in Pediatric Liver Transplantation: A Case Series



Artem Monakhov^{1,2}, Yusra Safarova¹, Vyacheslav Salimov¹,
Ismail Kurbanov², Sergei Meshcheryakov¹, and Sergei V.
Gautier^{1,2}

1- Liver Transplantation Department, V. I. Shumakov Transplantology & Artificial
Organs National Medical Research Center, Moscow, Russian Federation

2 - Sechenov University, Moscow, Russian Federation



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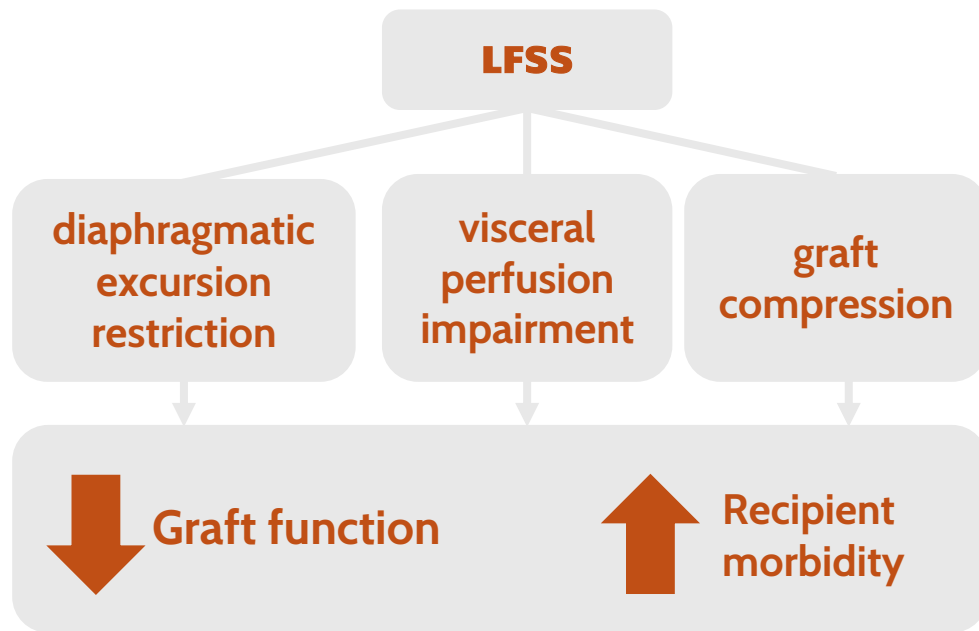


Conflicts of interests

- **The authors declare no conflicts of interests**

Introduction

- Liver transplantation is often the only treatment option for end-stage liver diseases in pediatric patients
- The mismatch in size between the recipient's abdominal cavity and an oversized liver transplant can lead to the development of **large-for-size syndrome (LFSS)**
- However, the shortage of appropriately sized donor organs for pediatric patients necessitates the use of larger grafts, which may be disproportionated to the recipient's abdominal cavity



Methods

Period	PELD	GRWR	Age	Weight	Graft types
December 2022 - March 2024 (7 cases)	23 Median	4.6% / 3.6% to 7.1% Median/ Range	6 mo/ 3 – 8 mo Median/ Range	6.7 kg / 4.3-7.3 kg Median/ Range	LLS

Indications for vacuum-assisted laparostomy (VAL) were based on:

- GRWR
- CT-calculated thickness disparity between LLS and the recipients's abdominal cavity
- worsening parameters of artificial ventilation during test abdominal wall approximation



Before VAL



After VAL

Results

- Final closure of the abdominal cavity was performed at 7 to 24 postoperative days and took 1 to 3 procedures of stepwise closure of the abdominal wall defect using native tissues.
- No surgical complications, including biliary and vascular, or complications associated with using this approach occurred.

Conclusion

- This case series demonstrates the safety and advantages of vacuum-assisted laparostomy for delayed closure of the abdominal cavity in a selective group of patients after pediatric LT.
- This approach can be an effective alternative to anatomical or non-anatomical reduction of the liver graft, as well as the use of a Bogota bag or abdominoplasty using synthetic materials.
- Vacuum-assisted laparostomy protects the integrity of the abdominal wall and minimizes the risk of infection.