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No Disclosure

Does tying first during hepatic artery reconstruction help prevent stenosis?

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Background

- Living Donor Liver Transplantation (LDLT) is vital for end-stage liver disease, and hepatic artery reconstruction (HAR) is crucial for graft survival.
- Hepatic artery anastomosis is technically demanding due to the small diameter of the artery and the precision required.
- This study evaluates two techniques in LDLT—**tie-first** vs. **reperfusion-first**—to determine which approach minimizes complications like stenosis and reduces the need for intraoperative revisions.

Methods

- **Retrospective analysis** of 24 living donor liver transplants (LDLT) performed at Hanyang University Hospital between **January 2019 and October 2023**.
- Patients
  - 24 LDLT patients.
  - All donor surgeries performed laparoscopically.
  - Hepatic artery reconstruction using the conventional twisting technique.
- **Microanastomosis** was performed in all cases (100%) using a **surgical loupe**.

Results

- Patient Groups:
  - Tie-first group: 11 cases (45.8%).
  - Reperfusion-first group: 13 cases (54.2%).
- Hepatic Artery Diameter **(p=0.17)**
  - Tie-first: 2.09 ± 0.3 mm.
  - Reperfusion-first: 1.92 ± 0.27 mm.
- Intraoperative Revisions **(p=0.02)**
  - Tie-first group: 1 case (9.1%).
  - Reperfusion-first group: 7 cases (53.8%).

Conclusion

- The **tie-first group** had significantly fewer intraoperative revisions compared to the **reperfusion-first group** (9.1% vs. 53.8%, p=0.02).
- No significant difference in the diameter of the donor hepatic artery between the two groups (p=0.17).
- The **tie-first technique** shows clear advantages in reducing complications during hepatic artery reconstruction, particularly **stenosis** and the need for revisions.
- For surgeons with limited experience in hepatic artery anastomosis, adopting the tie-first method is recommended to minimize risks and improve patient outcomes in LDLT.

Thank you

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