LETTER TO THE EDITOR
Turk J Surg

Children are not just small adults: Comment on "Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) for pediatric mesenchymal hamartoma: A case report" by Caballes et De Lara

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Dear Editor,

We read with great interest the recent case report by Caballes et De Lara on the use of Associating Liver Partition and Portal Vein Ligation for Staged Hepatectomy (ALPPS) in an infant with mesenchymal hamartoma (1). While we acknowledge the authors' efforts in managing a complex case and congratulate the team for the successful surgery, we would like to highlight important concerns regarding the rationale for applying ALPPS in pediatric patients, particularly in light of recent evidence on the role of the future liver remnant (FLR) in children (2).

There is an increasing number of case reports on the application of ALPPS and portal vein embolization in children undergoing hepatectomy (3-11). However, we strongly believe that more evidence is needed to justify the use of these techniques in children. Our recent study on posthepatectomy liver failure (PHLF) in children (2) (published in the Annals of Surgery), based on a cohort of 125 major pediatric hepatectomies, demonstrated that PHLF is exceedingly rare in this population. We found that children have a significantly higher liver volume-to-body weight ratio than adults, with sufficient FLR even in cases where the remnant volume was <20% of total liver volume. Furthermore, we identified no clinically relevant PHLF in our cohort, even among patients undergoing extensive hepatectomies, including right trisectionectomies. These findings call into question the need for FLR augmentation strategies such as ALPPS in pediatric patients, which are based on thresholds derived from adults, and primarily justified in adults due to the risk of PHLF.

ALPPS, initially developed to address the risk of insufficient FLR in adults, has not been systematically evaluated in children and may expose them to unnecessary risks (12), including increased morbidity and compromised oncological outcomes due to the acceleration of tumor progression reported in some case reports (13).

Given these findings, we urge caution in the application of adult-derived surgical strategies in pediatric liver tumors (2). We advocate for a more tailored approach that considers the unique regenerative capacity of the pediatric liver and the low incidence of PHLF in children. Preoperative volumetry should be interpreted with pediatric-specific thresholds in mind, and decisions regarding two-stage hepatectomy, and surgical strategies in general, should be made with caution, trying to understand the pediatric liver physiology.

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We appreciate the opportunity to discuss this important topic and hope that our observations will contribute to an evidence-based approach to liver surgery in pediatric patients.

Footnotes

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