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FOREWORD

A Foreword

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Dear Readers and Colleagues,

The special issue of Updates in Surgery that you are holding represents a highly significant contribution to modern surgery and a source of pride for the Italian surgical community. It marks a pivotal chapter in the understanding of contemporary approaches to living donor liver transplantation, thanks to the contributions of some of the most influential contemporary Authors in the development of adult-to-adult living donor liver transplant techniques.

The topics covered range from global epidemiological reflections to the complex technical details of vascular and biliary anastomoses. This issue is both timely and necessary, shedding light on the current state of this complex surgical procedure. The subject is of great interest, combining strictly technical aspects with ethical and professional considerations—chief among them, the safety of the donor, a healthy individual driven by profound altruism, whose well-being we are ethically bound to protect to the fullest extent of our capabilities.

Such reflections help us understand why living donor transplantation remains less widespread in Europe and the Western world, and why this trend should be reversed in light of emerging insights in the field of transplant oncology. It is now well established that patients with primary and metastatic liver malignancies can achieve excellent long-term outcomes through transplantation, provided that specific oncological time windows are met—windows that living donor liver transplantation allows us to respect far more reliably than traditional deceased donor transplantation.

The improved safety and efficacy of living donor liver transplantation (LDLT) today are the direct outcomes of continuous surgical innovation. Notably, advancements in the understanding of technical challenges—particularly regarding venous outflow reconstruction—have significantly enhanced the procedural success of LDLT and may reduce the risk of small-for-size syndrome. Furthermore, a deeper comprehension of portal hemodynamics, segmental liver anatomy, and techniques for inflow and outflow reconstruction has led to the development of innovative two-stage transplantation approaches, such as the RAPID procedure in the context of portal hypertension. These innovations have contributed to substantial improvements in both donor and recipient outcomes, while also enhancing donor safety[1].

The most recent innovation lies in the advent of minimally invasive technologies within the transplant field. Laparoscopy was the first step, offering reduced surgical impact for the donor and notable benefits in postoperative recovery. More recently, the introduction of robotic systems has further expanded the role of minimally invasive approaches, now increasingly applied to recipient implantation as well[2,3].

During the preparation of this special issue, these techniques have continued to gain traction—what once seemed a distant future is now becoming reality. We are thus witnessing a rapidly evolving field, and this work offers valuable insights to better understand its past and navigate the innovations on the horizon, with the ultimate goal of continuously improving donor safety and recipient outcomes.

Data availability Not applicable.

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