



Setting New Benchmarks in

LIVER TRANSPLANTATION



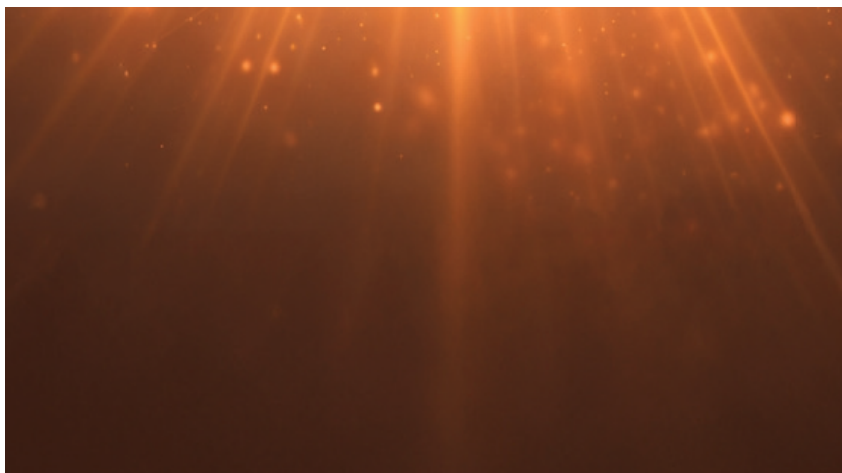
FROM VISION TO REALITY: A MESSAGE FROM MANAGEMENT



Dr. Prithvi Mohandas,
Managing Director, MIOT International

MIOT's vision has always been that every patient deserves access to the best possible care, even in the face of the most complex and life-threatening conditions. This commitment is particularly important in the treatment of liver cancer, where late diagnosis, complex tumour biology and limited eligibility for surgery often leave patients without curative options. MIOT addressed this challenge by building a comprehensive transplant programme that integrates transplant oncology, advanced imaging, interventional therapies, precision surgery and critical care. By adopting cutting-edge technologies, evidence-based protocols and multidisciplinary decision-making, we have been able to redefine what is treatable and extend curative opportunities to patients once considered inoperable.

With an experienced team of liver specialists and state-of-the-art technology, MIOT performs high-complexity liver transplants with outcomes comparable to the best centres globally. By integrating transplant oncology, advanced imaging, interventional therapies and precision surgery, MIOT has transformed outcomes in patients once considered beyond cure.



FOREWORD



Dr. Karthik Mathivanan,

Program Director - Liver & Multi-Organ Transplant, MIOT International

Over the last fifteen months, the Liver Transplant Program at MIOT International has undergone a remarkable transformation, one defined by innovation, courage, precision, and an unwavering commitment to saving lives. What began as a mission to build a centre of excellence has matured into one of India's fastest-growing and most advanced liver transplant units, now trusted by patients from more than a dozen countries across Asia, Eastern Europe, and the Indian Ocean region.

This year, we pushed the boundaries of what liver transplantation can achieve. Our work in Transplant Oncology has positioned MIOT among a select group of global centres capable of converting biological impossibility into surgical reality. What MIOT is most proud of is our team's spirit, our surgeons, hepatologists, anaesthesiologists, intensivists, interventional radiologists, coordinators, nurses, and support staff. Together, MIOT have created an environment where complexity is embraced, precision is celebrated, and patient survival and quality of life are the ultimate goals.

As we present this annual newsletter, we extend our gratitude to referring physicians, partner hospitals, and international collaborators who entrust their patients to MIOT. Their confidence fuels our journey.

This is just the beginning. With a strong foundation, global collaborations, and a relentless drive for innovation, MIOT's Liver Transplant Program is poised to shape the next era of transplant medicine in India and beyond.

MIOT's Liver Transplantation Programme

MIOT International is a leader in liver transplantation, combining advanced technology, expert care, and personalised treatment plans for the best outcomes. From accurate diagnosis and comprehensive pre-transplant evaluation to complex surgery, critical care and long-term follow-up, MIOT provides holistic, continuous support at every stage of the patient journey. Affordability without compromising safety has been MIOT's core principle.



Beyond the Boundaries

MIOT delivers advanced liver treatment and transplantation to patients from India and across the world. MIOT International has expanded its boundaries significantly in more than 12 countries, including Sri Lanka, Bangladesh, Myanmar, the Maldives, Mauritius, Iraq, Tajikistan, Uzbekistan, Kyrgyzstan, Kazakhstan, Poland, and across all regions of India.





MIOT's Liver Transplantation Team

MIOT's liver specialist team brings together highly experienced hepatologists, HPB and liver transplant surgeons, transfusion medicine specialists, transplant anaesthesiologists, pathologists, haematologists, interventional radiologists, intensivists, specialised nurses, dietitians and transplant coordinators. Working as a cohesive multidisciplinary unit, the team delivers precise diagnosis, advanced surgical expertise and personalised treatment plans for complex liver conditions.

Specialised Transfusion Care

Blood transfusion plays a critical role in liver transplantation, where patients often have complex coagulation disorders and limited physiological reserve. At MIOT, transfusion medicine is seamlessly integrated into the liver transplant programme, with highly specialised transfusion medicine experts to ensure optimal blood management. Through meticulous planning, advanced compatibility testing, targeted component therapy and real-time intraoperative monitoring, the team minimises transfusion requirements while maintaining patient safety. This specialised approach is particularly vital in high-risk, ABO-incompatible and rare blood group transplants, enabling MIOT to achieve excellent outcomes even in the most complex transplant scenarios.



MIOT Gold Standard Liver Transplant Programme (MGST)

MIOT Gold Standard Liver Transplant Programme ensures the best outcomes with a protocol-driven, evidence-based organ selection. Through careful selection of donor organs and the use of the latest medical techniques, our program aims for long-term survival and an improved quality of life.

High Success Rates: With a success rate of 90-95%, we have one of the highest transplant success rates in the country.

Comprehensive Care: Our multidisciplinary approach guarantees the best possible treatment before, during, and after the surgery.

Patient-Centered Support: We are committed to providing emotional and medical support to patients and families throughout the transplant journey.

Robotic Liver Transplantation

MIOT International utilises robotic technology for live-related donor organ retrieval, offering enhanced precision and minimal invasiveness. Robotic surgery reduces the risk of injury to surrounding tissues, shortens recovery times, and improves overall surgical outcomes. We are now poised to extend robotic technology to organ recipients as well, truly offering a minimally invasive surgical treatment. With advanced robotic-assisted intraoperative ultrasound, real-time imaging enables our surgeons to maintain precision throughout the procedure, leading to improved transplant success.



Milestones

Over the past 15 months, MIOT's Liver Transplant Programme has rapidly evolved into a high-volume, high-complexity, and internationally recognised centre of excellence. Through pioneering clinical innovation, exceptional outcomes and global referrals, MIOT is shaping the future of liver transplantation in India and beyond.

Here are some of the milestones achieved by the MIOT Liver Transplant Programme that have developed a global impact.

Pioneering Transplant Oncology

MIOT has emerged as one of India's leading centres for Transplant Oncology, delivering some of the most advanced downstaging and curative liver surgeries in the world.

Breakthrough Downstaging Protocols

- 7 patients successfully transplanted after immunotherapy-based downstaging
- TARE (Selective Internal Radiation) used for both lobes when needed
- FAPI-PET and FAPI-guided liver-targeted radiation therapy (rare even globally)
- Achieved 50-60% downstaging success in previously inoperable tumours
- Each case underwent stringent MDT and international peer review

Complex Cholangiocarcinoma Success

- Intrahepatic & hilar cholangiocarcinoma cases downstaged using:
 - Immunotherapy
 - Brachytherapy
 - TARE
 - Combination chemotherapy
- Landmark Polish patient case: Downstaged hilar CCA (type IV) → successful LDLT, with excellent outcomes

These results position MIOT as a global pioneer in transplant oncology.

ABO-Incompatible Liver Transplant Programme

MIOT has established one of India's most cost-effective and outcome-driven ABO-incompatible liver transplant programmes. Over the last 15 months, four ABO-incompatible living donor liver transplantations have been completed with outcomes comparable to leading international centres.

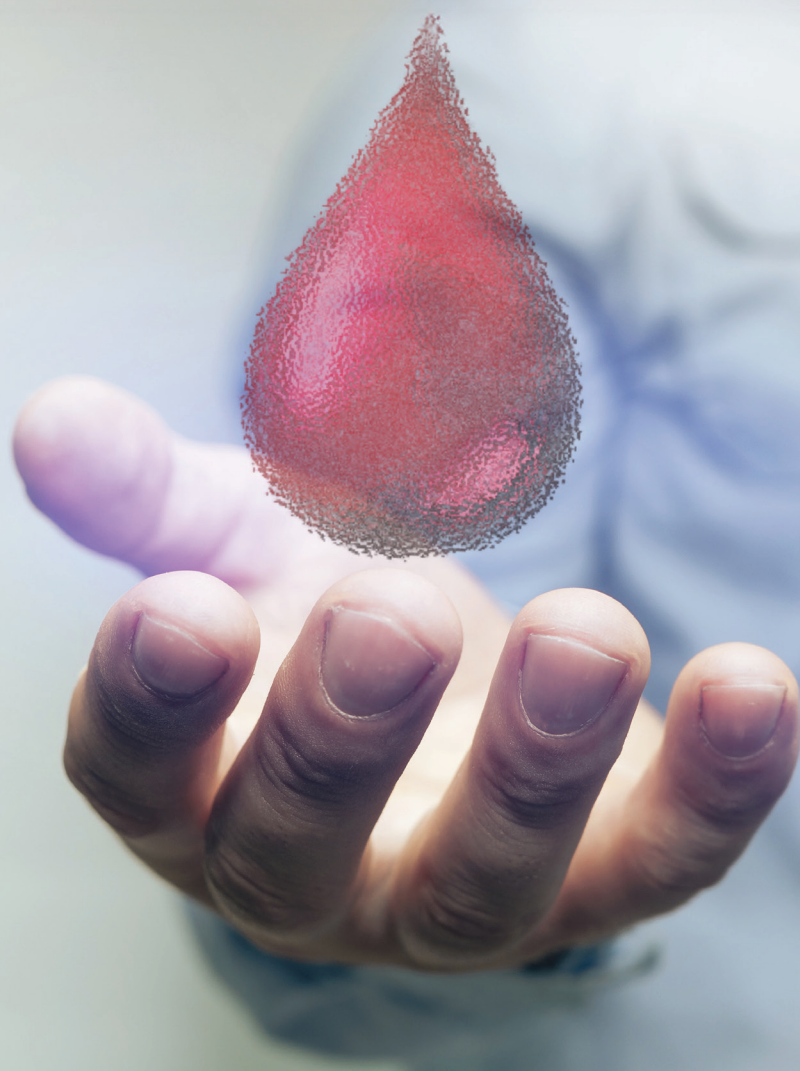
By optimising protocols without compromising safety or graft survival, MIOT has achieved a complete transplant and work-up cost of ₹23-24 lakhs, making complex transplants more accessible. This has positioned MIOT as a preferred destination for ABO-incompatible liver transplants across South Asia.

Successful Liver Transplantation in Ultra-Rare Blood Groups

One of MIOT's most complex and remarkable achievements this year was the successful liver transplant of a patient from the Maldives with an extremely rare blood group and an associated JAK2 mutation. The case demanded meticulous preoperative planning and close coordination with MIOT's blood bank due to severely limited blood availability. Despite these constraints, the transplant was executed successfully, resulting in excellent graft function and patient recovery. This landmark case sets a new benchmark for Indian liver transplant centres and highlights the exceptional expertise of MIOT's surgical and transfusion medicine teams in managing highly constrained and complex transplant scenarios.

Surgical Precision That Preserves Every Drop of Blood

MIOT has performed 12-15 living donor liver transplants with minimal blood transfusion. These cases reflect MIOT experts' superior surgical precision, advanced haemostasis strategies, and high-level anaesthetic optimisation. This further strengthens MIOT's reputation as a centre capable of bloodless or near-bloodless liver transplantation.



Exceptional Surgical Outcomes

MIOT has demonstrated outstanding technical expertise in

- Multiple arterial reconstructions
- Multiple portal veins
- Complex venous outflow using middle hepatic vein reconstruction
- High-volume segments 2-3 venoplasty & customised graft reconstructions
- Vascular complication rates, which remain below 0.5%

Across a 60-case series, MIOT maintained:

- <0.5% Hepatic artery thrombosis
- Extremely low portal vein and outflow issues
- Significantly lower bile duct complications than the national averages

This reflects MIOT's world-class surgical precision and protocols.

Program Highlights at a Glance (Past 15 Months)

- 60+ liver transplants, including high-risk and international cases
- 7 transplant oncology downstaged cancers
- 4 ABO-incompatible living donor liver transplantation
- Multiple ALF transplants within 24 hours
- Rare blood group living donor liver transplantation was completed successfully
- 12-15 minimal transfusion living donor liver transplantation
- All outcomes are prospectively audited and benchmarked against national and international registries.
- Patients from 12+ countries treated
- Contributing to the development of India's first national liver transplant registry

MIOT Rapid Liver Response Unit (RLRR Unit)

The MIOT Rapid Liver Response Unit is among India's fastest, fully integrated programmes for Acute Liver Failure (ALF). The unit delivers end-to-end, time-critical care, ranging from emergency retrieval from remote districts to stabilisation, multidisciplinary clearance and living donor liver transplantation within 24 hours. The programme has a special focus on patients with hepatitis-associated ALF, toxin- or rat-poisoning-induced ALF, viral and indeterminate causes. The unit has delivered exceptional survival rates in some of the country's sickest ALF patients.

