

## PRESS RELEASE

**Embargoed: 00:01 CEST, Sunday, 17 September 2023**

# Neonatal kidney transplantation offers new hope in the organ shortage crisis, study shows

**(17 September 2023, Athens, Greece) New research, presented today at the European Society for Organ Transplantation (ESOT) Congress 2023, demonstrates that neonatal kidney transplantation can offer a ‘game-changing’ solution to the pressing organ shortage crisis.<sup>1</sup>**

To assess the feasibility of neonatal organ donation, researchers analysed neonatal mortality in the United States and the long-term development of these kidneys after transplantation as well as the ethical and social considerations surrounding the procedure.<sup>1</sup>

The study revealed that out of the 21,000 infants who lost their lives in 2020, more than 12,000 could have been considered as viable organ donors.<sup>1</sup>

The organ shortage is one of the greatest challenges facing the field of organ transplantation. As of January 2022, there were 100,000 patients on the waiting list for kidney transplantation in the US, with just 24,669 kidneys transplanted in the previous year. Alarming, this donor pool shortage contributed to the deaths of 5000 patients on the waiting list.<sup>1</sup>

This crisis is not unique to the US. Across Europe, organ supplies cannot meet the increasing demand, and annually an average of 15–30% of patients on waitlists die.<sup>2</sup> As human life expectancy increases whilst chronic conditions like diabetes, obesity and liver disease become more prevalent, there is an increased need for transplants and a reduction in the number of available organs.<sup>3</sup>

In 2018, kidneys were the most frequently transplanted organ across the EU, accounting for over 60% of all transplants.<sup>4</sup> Previous research has confirmed the viability of transplanting kidneys from paediatric donors into adults.<sup>5</sup> Notably, neonatal kidneys have demonstrated catch-up growth and excellent long-term performance (>25 years), exceeding that of living donors. Current transplantation techniques have also proved to be safe and effective for neonatal kidneys.<sup>1</sup>

Dr Dai Nghiem, lead author of the study, comments, “We believe that neonatal kidney transplantation offers a ‘game-changing’ solution to the organ shortage crisis. This study looked at the US alone, but if you replicate the findings across the globe then we have a huge untapped pool of available organs that can be used for transplants.”

“Understandably, paediatric organ donation presents distinct ethical and social challenges compared to adult donation”, added Dr Dai Nghiem. “For families and caregivers, making the decision to donate can be an incredibly tough process, especially the organs of their newborn. There is also a concern amongst the transplant community about the difficulty of the procedure along with its experimental nature. Through the exchange of experience among pioneering centres, we hope to address these concerns, foster acceptance of this forgotten source of organ donors and ultimately save more lives through organ transplantation.”

Professor Gabriel Oniscu, ESOT President Elect and Co-Chair of the ESOT Congress 2023, adds, “While recognising the highly emotive nature of this issue and the ongoing ethical and legal considerations, the study’s findings underscore the importance of acknowledging neonates as potential organ donors. To achieve this, it is imperative that every European country has dedicated paediatric donation protocols in place that encompass neonatal organ donation procedures. This proactive approach aims to heighten awareness among Neonatal Intensive Care Unit professionals regarding the possibilities of neonatal donation, promoting discussions with parents that could help save many lives.”

**END**

**\*Key terms:**

Neonatal: Newborn, or the first 28 days of life.

**Note to editors:**

A reference to the ESOT Congress 2023 must be included in all coverage and/or articles associated with this study.

For more information or to arrange an expert interview, please contact Luke Paskins on [luke.paskins@emotiveagency.com](mailto:luke.paskins@emotiveagency.com) or [press@esot.org](mailto:press@esot.org).

**About the study author:**

Dr Dai D Nghiem is a surgery specialist practicing in Garden Grove, California. Dr Nghiem was a Professor of Surgery at Drexel University and Director, Division of Transplantation at Allegheny General Hospital, Pittsburgh, PA. Dr Nghiem has published 235 papers and presented 139 abstracts at 94 exhibits in the US, Europe and Asia.

Dr Nghiem is known for developing the procedure of whole pancreas transplantation with a segment of duodenum draining into the bladder, thus avoiding the infectious complications plaguing the operation, and allowing the diagnosis of pancreatic rejection by monitoring the urinary amylase levels and the cystoscopic duodenal biopsies. He also is recognised for the technique of en bloc transplantation, using the donor aorta and vena cava to simplify the operative technique and shorten operative time. These innovations have extended the use of limited organ supply and provided transplantation to many patients who may never otherwise received this ‘gift of life’.

**About Professor Gabriel Oniscu**

Professor Gabriel Oniscu is the ESOT President Elect and Co-Chair of the ESOT Congress 2023. He is the Director of the Edinburgh Transplant Centre. Professor Oniscu has a clinical interest in liver, pancreas and kidney transplantation and laparoscopic surgery, performing laparoscopic living donor nephrectomy and polycystic kidney nephrectomy.

**About ESOT:**

ESOT was founded 40 years ago and is dedicated to the pursuit of excellence in organ transplantation. Facilitating a wealth of international clinical trials and research collaborations over the years, ESOT remains committed to its primary aim of improving patient outcomes in transplantation. With a community of over 8000 members from around the world, ESOT is an influential international organisation and the facilitator of the biennial congress which hosts

approximately 3500 experts who come to meet to explore and discuss the latest scientific research.

**References:**

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