Current Status Pediatric Intestinal Transplantation Program

Rubén E. Quirós-Tejeira, MD

Professor of Pediatrics
Chief, Pediatric GI, Hepatology & Nutrition
Medical Director, Pediatric Intestinal Transplantation

University of Nebraska Medical Center

1

The Nebraska Experience Since 1990

- 1st intestinal transplant (LSB) 9/8/90
- 1st isolated intestinal transplant 12/15/93
- 1997 paper from NE - Intestinal transplant as an option for treatment of SBS/intestinal failure – First report of 16 intestinal transplants in infants – 13 were liver/intestinal transplant.
- 2000 – Formalized our Intestinal Rehabilitation Program (IRP)

2

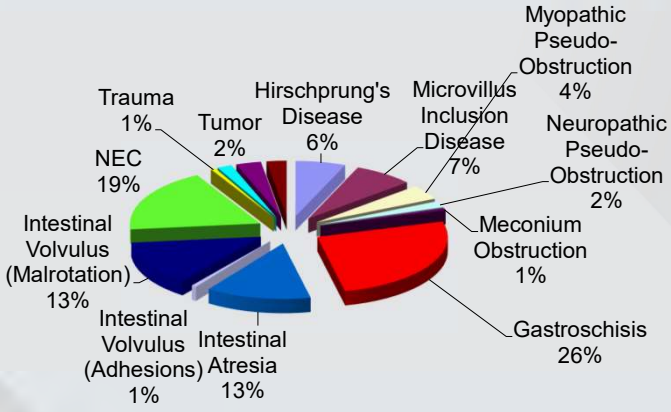
Multidisciplinary Team

- Transplant Surgeons (5)
- Pediatric Transplant Hepatologists (4)
- Transplant/IRP Coordinators (3/3)
- Nurse Practitioners (3)
- Transplant/IRP Clinical Dietitian (1/3)
- Transplant Pedi PharmD (3)
- Psychologist, Social Worker, Nurses, Child Life Specialist, Financial counselor.

* Others specialties – i.e. ID, Heme/Onc, Renal, etc.

3

Intestinal Transplant Diagnosis



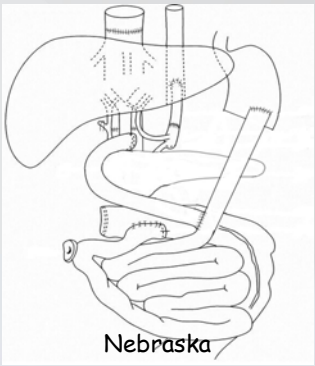
4

Variations of Intestinal Transplantation

- Isolated Intestinal Transplantation

- Multi-visceral:

Intestine-Liver-Pancreas
Intestine-Liver-Pancreas-Colon
Intestine-Liver-Pancreas-Kidney



5

OPTN/SRTR 2022 SBTx/LSBTx Volume

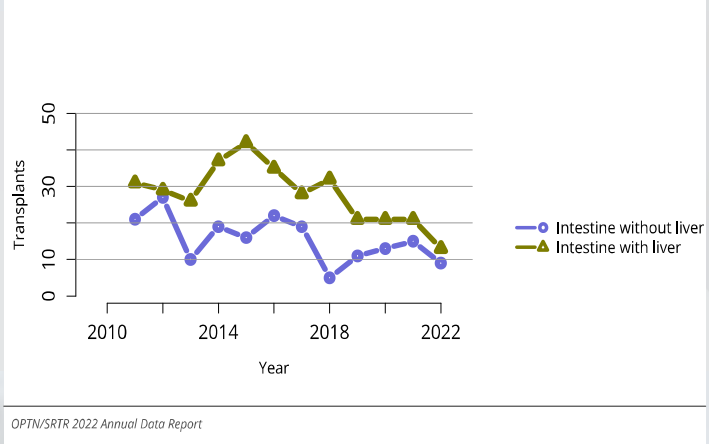


Figure IN 33: Pediatric intestine transplants by transplant type. Pediatric intestine transplant recipients, including retransplant and multiorgan recipients.

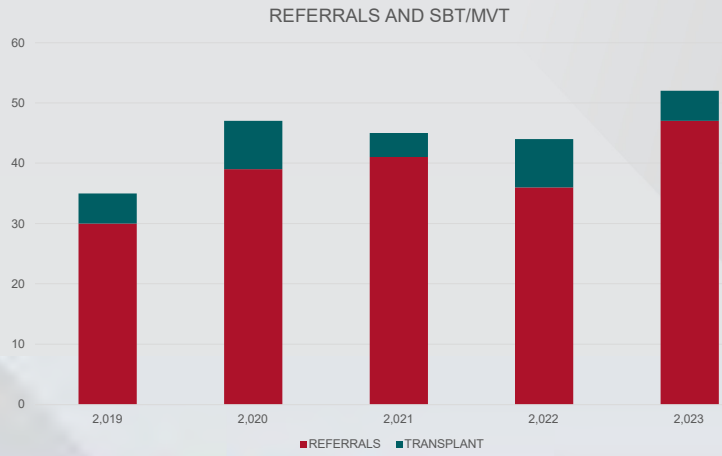
6

Isolated SB & MVT at UNMC

	2019	2020	2021	2022	2023
ISB	2	1	1	4	1
L/SB/P	3	5	3	4	3
L/SB/P/K	0	2	0	0	1
TOTAL	**5**	**8**	**4**	**8**	**5**

7

Intestinal Failure Referrals vs SBT & MVT at UNMC



8

Where the referrals came from
2022-2023

Nebraska	Mississippi
Iowa	South Dakota
Colorado	Washington
Kansas	Arizona
Texas	Louisiana
Missouri	Minnesota
Oklahoma	North Carolina
New Mexico	New York
Alabama	Hawaii
Oregon	Utah

9

Complications

SURGICAL (~10-15%)
- Bleeding, anastomotic leaks, thrombosis, SB perforation/fistula

MEDICAL
- Infections (1st cause of Death)
- Acute rejection (20-50% down from 85% in the 90's)
- PTLD (10-15%)
- GVHD (5-10%)
- Antibody mediated rejection (in SBT/MVT past 10 y)

- Long-term – Chronic SB allograft rejection
  Chronic renal failure

10

SBT/MVT Graft Survival (OPTN/SRTR 2022)

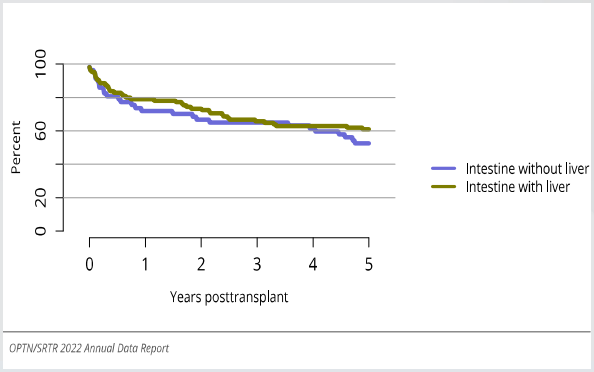


Figure IN 42: Graft survival among deceased donor pediatric intestine transplant recipients, 2015-2017, by transplant type. Intestine graft survival estimated using unadjusted Kaplan-Meier methods.

11

SBT/MVT Patient Survival (OPTN/SRTR 2022)

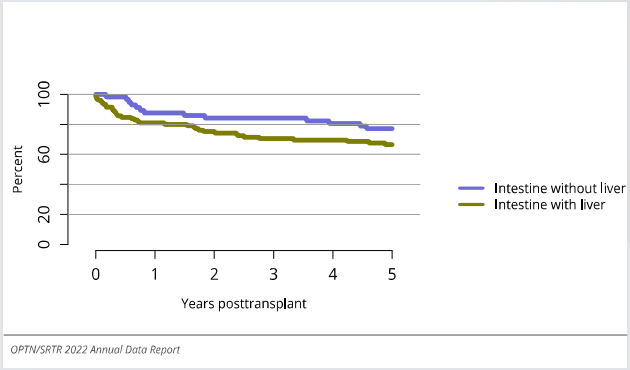


Figure IN 49: Patient survival among deceased donor pediatric intestine transplant recipients, 2015-2017, by transplant type. Patient survival estimated using unadjusted Kaplan-Meier methods.

***UNMC – 1-year survival – 88%. 3-year survival – 75%**

12

Research/Publications – UNMC 2021-2023

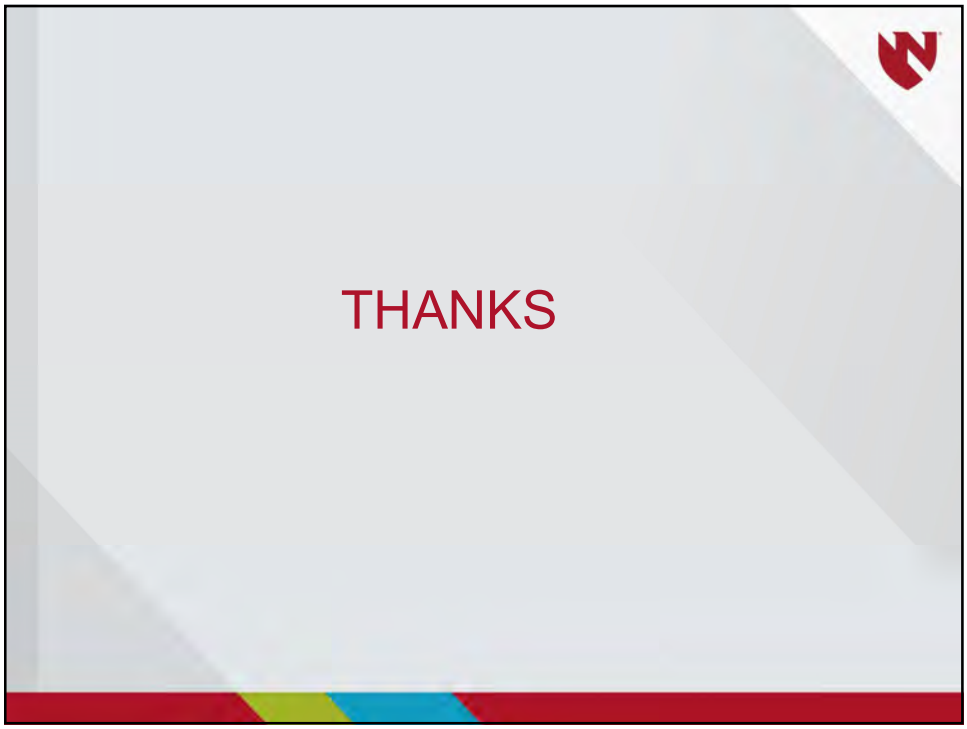
- Long-term nutritional outcome in SBT/MVT
- Ileoscopy screening in SBT/MVT
- Evaluation of monitoring of DSA in SBT/MVT
- GH Therapy in pediatric SBT/MVT recipients
- Valganciclovir in CMV infections in Pedi SBT/MVT
- Pediatric Fibrosis in Pedi SBT/MVT recipients

13

Future

1. SBT/MVT volumes will remain low – success of IRP. This will be a challenge to advance the field.
2. Non-invasive markers to monitor and early dx of rejection.
3. Improvement in immunosuppression – Per OPTN/SRTR data, no major changes in graft and survival outcome over the past 10 years.
4. Targeted immunosuppression to better balance prevention of rejection vs risk for infections and prevention of PTLD.
5. Better understanding on ”antibody mediated rejection” - DSA vs Bx findings.
6. Diagnosis and prevention of chronic intestinal allograft rejection.

14



15