Introduction

Intestine transplant became a clinical reality for children with intestinal failure in the early 1990s. Increased survival, driven by very high mortality rates for infants and children on long-term parenteral nutrition (PN) and improving parenteral nutrition products, or organizations imply endorsement by the U.S. Government.

Demand peaked in 2007, with 111 small bowel-containing transplants in pediatric recipients. Since 2007, referral and listing of infants and children for intestine transplant declined slowly. Waiting mortality rates have declined due to improvements in the care of children with chronic intestinal failure.

This poster compares listing and recipient cohorts in a contemporary 3-year cohort (January 2017 to December 2019) with the 5 years just before peak intestine transplant activity (January 2002 to December 2006). Some who received transplants in either era may have been listed earlier, but some may have been listed later.

Methods

For Table 1, all intestine transplant recipients younger than 18 at listing are included. For all other results, all intestine transplant recipients are considered independently:
- Children younger than 18 at listing are included
- For all other results, all intestine transplant recipients younger than 18 at listing are included
- For each era, we present descriptive summary statistics for both new waitlist candidates and transplant recipients
- For transplant recipients, statistics for both new waitlist candidates and transplant recipients are also presented

Results

A Comparison of Pediatric Intestine Transplantation Between the Current Era (2015-2019) and the Peak Period (2002-2006)

Discussion

The number of intestine-containing transplant numbers from 1990 to 2007 resulted from increased access and confidence in intestine transplant and changes in allocation policy giving priority to candidates awaiting liver-inclusive allografts.

Increased referral of ever smaller infants led to the highest waitlist mortality rates of any organ.

Response was a more aggressive approach to managing pretransplant patients with the intent to support them to transplant and the establishment of formal intestinal rehabilitation programs.

Waitlist deaths started to fall even before 2007 and now, even for infants with intestinal failure, mortality rates are comparable to other solid organs.

More than a decade since the peak, how has the landscape of pediatric intestinal transplant changed?

- More children are now able to wean from PN before complications occur.

- Those unable to fully adapt can continue PN largely free from serious complications, especially progressive liver disease.

- Numbers of intestine allograft recipients fell after 2007 but appear to have plateaued over the last 4 to 5 years.

- There is still a need for intestine transplant, but those listed and receiving an allograft are generally older than their counterparts before 2007.

- Intestine transplant survival has improved.

Whether the future trend will be still fewer transplants or a resurgence of intestinal transplant will depend largely on either improving long-term allograft survival or further advances to free children to long-term PN.