



# Maximizing the Yield from the Liver Donor Pool

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Clarian Transplant



# Situation in Indianapolis

- DSA has only one liver transplant program
  - 5 million people
- Central geographic location
- Transplant Rate 2.43 vs. 0.38 for USA





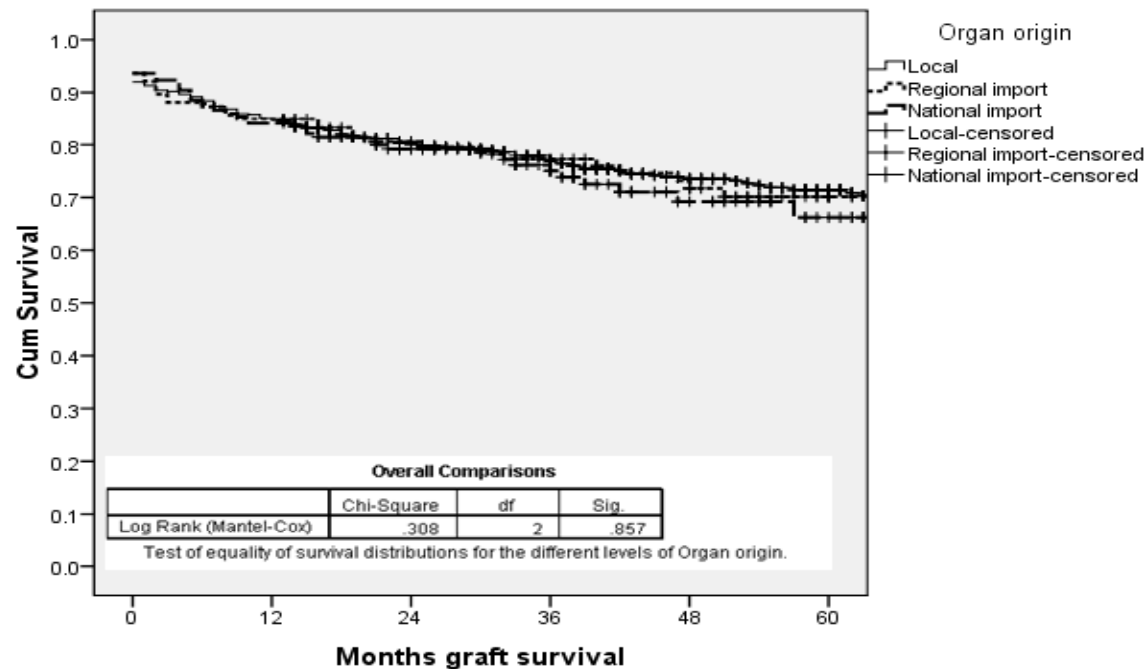
# Situation in Indianapolis

- Local donors 562 (66% vs 73% national data)
- Regional import 126 (15% vs 21% national data)
- National import 157 (19% vs 5.5% national data)



# Graft Survival by Geographic Origin of Donor Liver

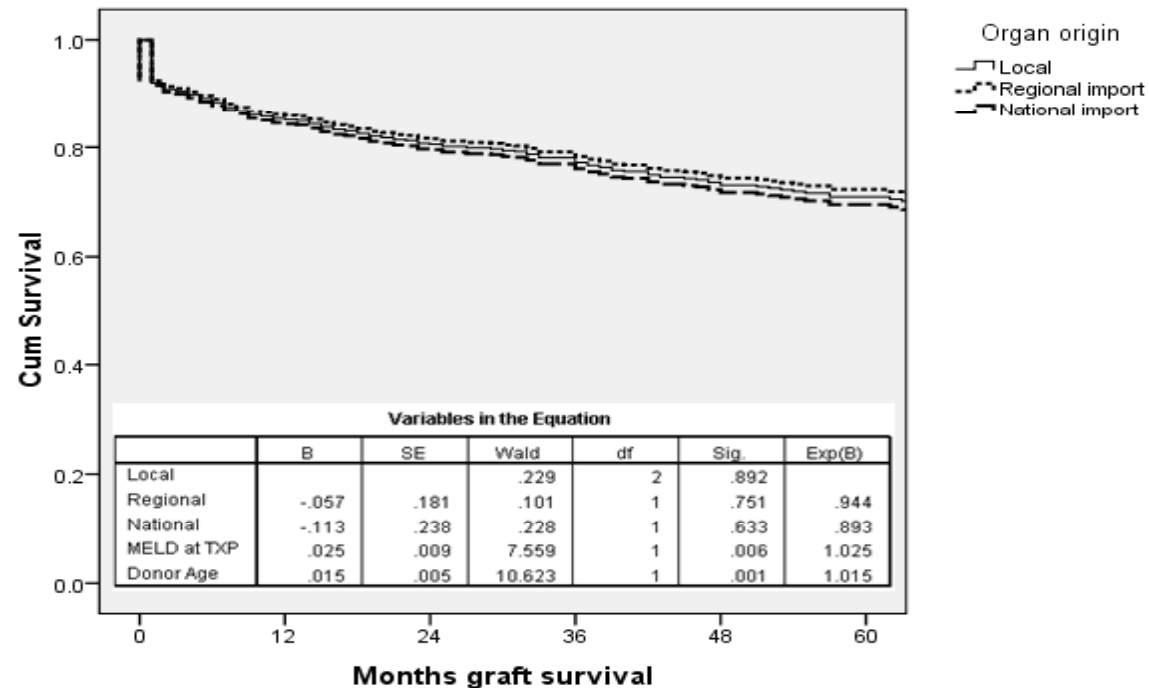
Kaplan-Meier GRAFT survival for 845 liver transplants stratified by geographic origin of the donor liver.





# Graft Survival Eliminating MELD at Transplant and Donor Age as Variables

Cox GRAFT survival curve for 845 liver transplants stratified by geographic origin of the donor liver.





# Why Are These Livers Available?

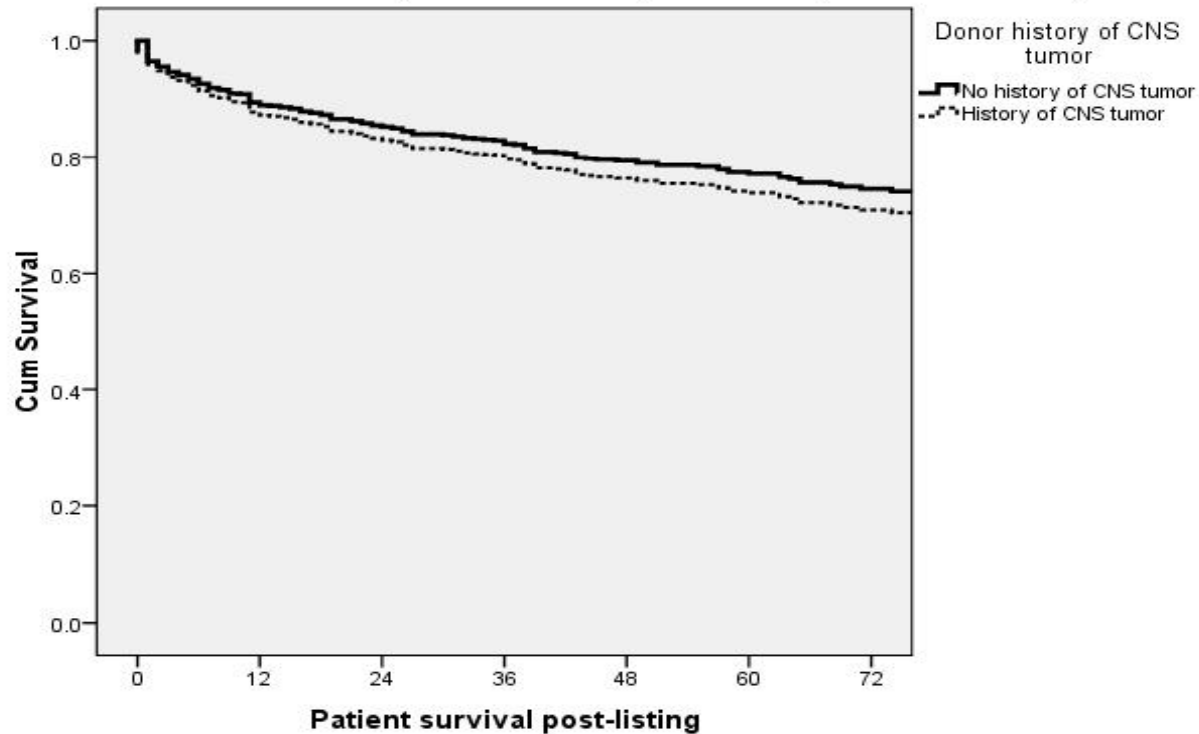
- High donor Sodium (>170)
- CNS Tumors
- HCV/HbC/HTLV 1 & 2
- Trauma
- High BMI
- Frightening history





# Patient Survival Using Livers from Donors with CNS Tumors

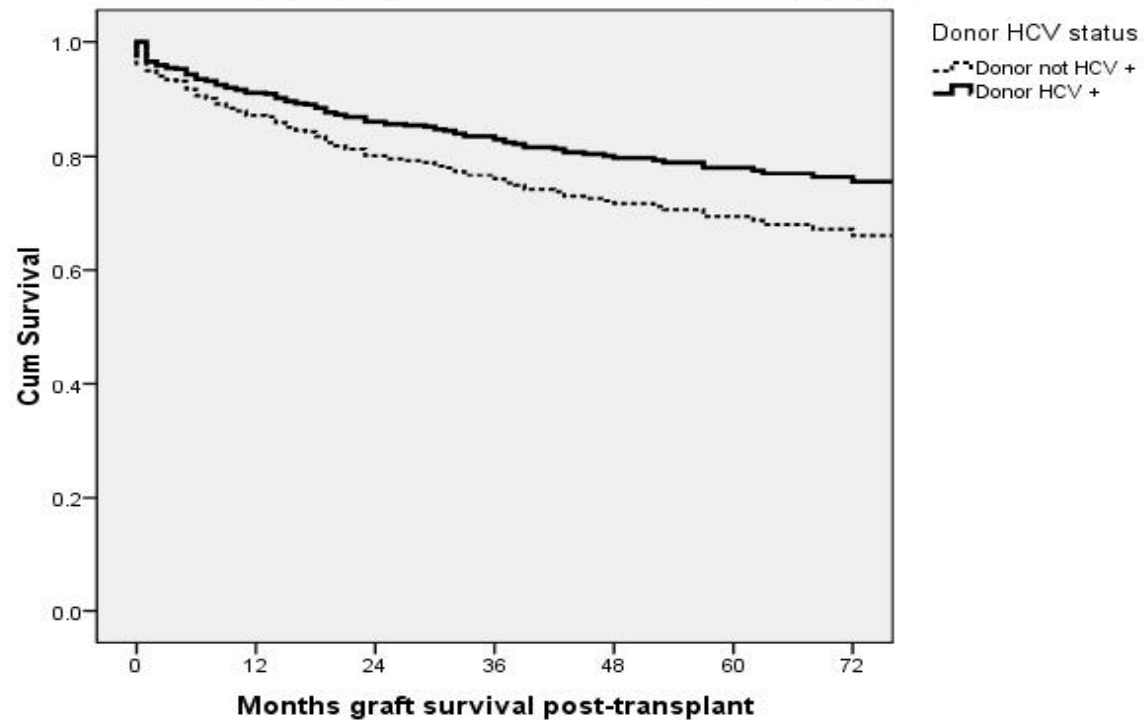
Cox regression PATIENT survival post-LISTING for liver allografts from donors with a history of CNS tumor (n=26 of 835, 3.1% of donors).





# Graft Survival for HCV Positive Donors

Cox regression GRAFT survival post-transplant for recipients with hepatitis C stratified by DONOR infection with hepatitis C.







# Can Our Situation Be Reproduced?



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# First Steps

- Identify high performing OPOs
  - Determine which factors make them able to produce more livers
  - Implement those practices for lower performing OPOs



# First Steps

- Identify high performing transplant programs with regards to effective utilization
  - Determine which factors make them able to utilize more livers
  - Implement those practices for lower performing transplant programs



# Problem with Focusing Solely on Allocation

- Will not increase total number of livers available for transplant
- Fails to identify and capitalize on practices that maximize liver yield
  - Best OPOs
  - Best programs



# Broader Sharing Does Not Promote

- Local involvement to fix issues regarding:
  - OPO performance
  - Transplant program performance
    - Procuring surgeon
    - Travel policies





# Factors That Impact Liver Yield

- OPO performance
- Donor Hospital performance
- Donor Surgeon Experience





# OPO Performance

- Consent rates
- Willingness to work with you and go the extra mile
  - Biopsies
  - Travel
  - Waivers



# Donor Hospital Performance

- Liver biopsy available 24/7/365
- Radiology images available to assess liver by CT for
  - Trauma
  - masses





# Donor Hospital Performance

- Digital imaging capabilities
  - Biopsy
  - Intraoperative photos
- Dermatology/neurosurgery for cancer risk evaluation
- Operating room availability



# Procurement Surgeon Experience

- Minimum standards should include
  - Attending surgeon
  - Member of a liver transplant program
    - Not a nephrectomist/willing urologist/general surgeon
    - Not a fellow
- Ideally
  - Should be from program that has accepted liver
  - Perform large number of liver procurements

# Difficult Decisions for Liver Transplantation

Donor livers without a home in the OR, which is worse?

- Placing the liver with a center you are confident will use the liver and “jumping the list”
- Attempting to allocate by the list and in the process you accrue too much cold time for the liver to be used

# Barriers to Maximizing Liver Utilization

Allocating by Donor Net eliminates the ability of OPO coordinators to bypass programs that they know will not use a given liver and burns up valuable cold time

- We need to decrease the amount of time a program is given to respond to an offer for a liver that is on ice

# Barriers to Maximizing Liver Utilization

Make reasonable times from cross clamp to airport for livers procured by local centers

# Take Home Message

There are good livers throughout the USA that are not being used in their region of origin

Maximal use of organs locally within each DSA should be achieved before moving livers to more remote locations

There are practices that can be put into place that can maximize local liver utilization