Un Filo per la Vita

Spello 2.11.2012

TRAPIANTO DI INTESTINO

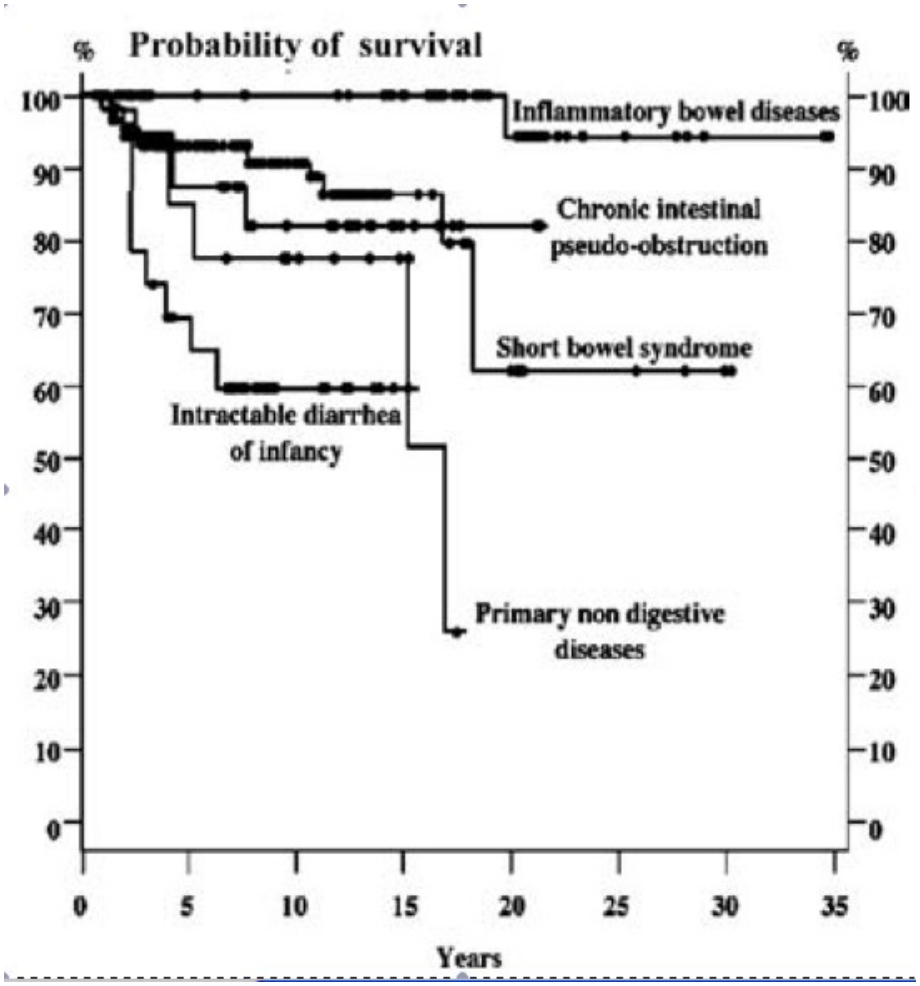
M. Colledan

Ospedali Riuniti di Bergamo

Long-term Outcome of children Receiving Home Parenteral Nutrition: a 20-years Single-center Experience in 302 Patients

V. Colomb, M. Dabbas-Tyan, P.Taupin, C. Talbotec, Y. Revillon, D. Jan, S. De Potter, A.M. Gorski-Colin, M. Lamor, K. Herreman, O. Corriol, P. Landais, C. Ricour and O. Goulet

JPGN 44: 347-353, 2007

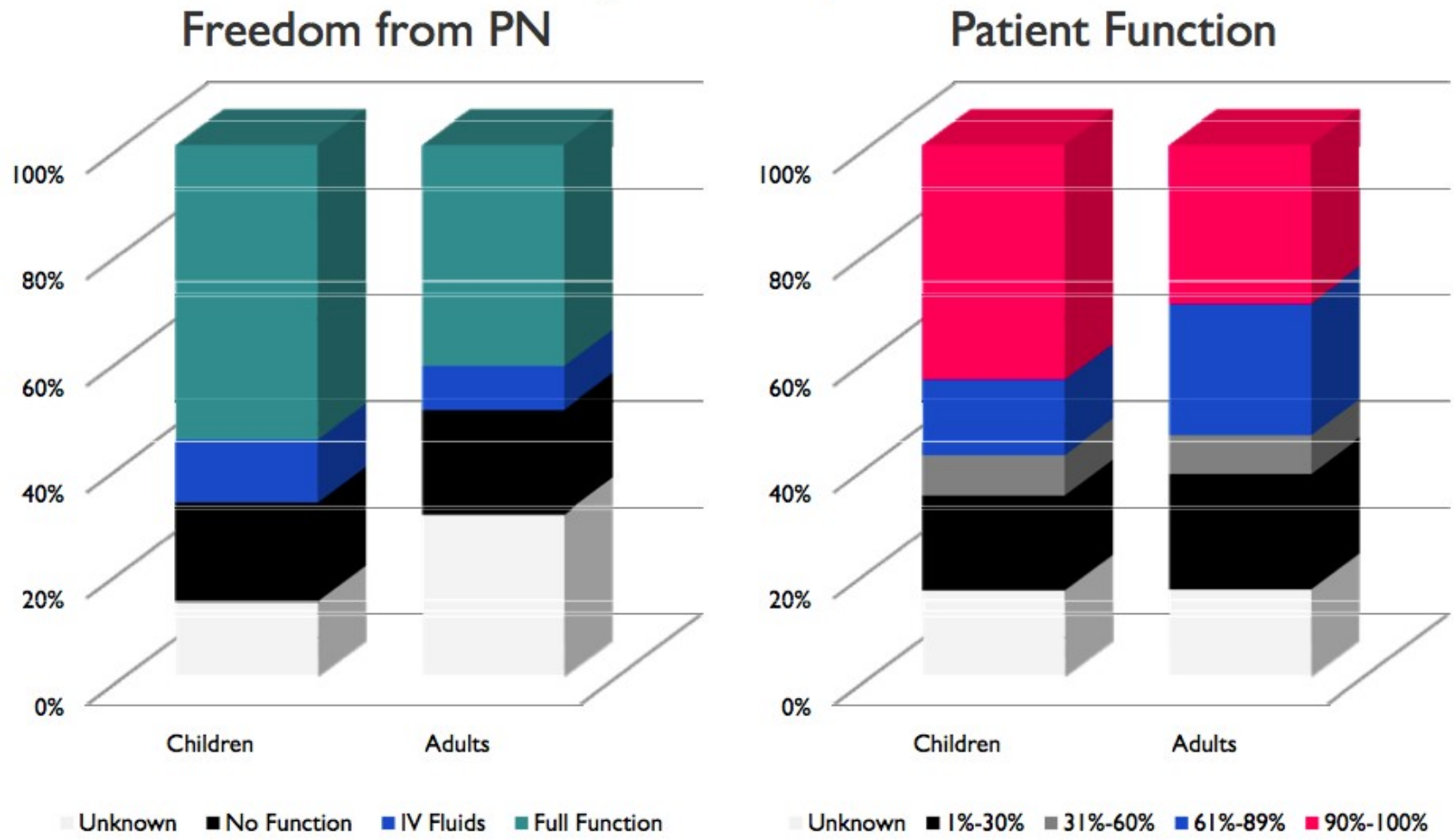


Pediatric Clinical Experience

Total Number of Transplants:	**1277**
Centre Count	55
Active Centres	**35**
SB Alone	441 (34.6%)
SB+Liver	594 (46.6%)
MVT	210+30 (18.9%)
Current Survivors	**616**

Functional Status*

(2006-2011)



* 6 months after IT

Intestinal Transplant Registry Report © 2011

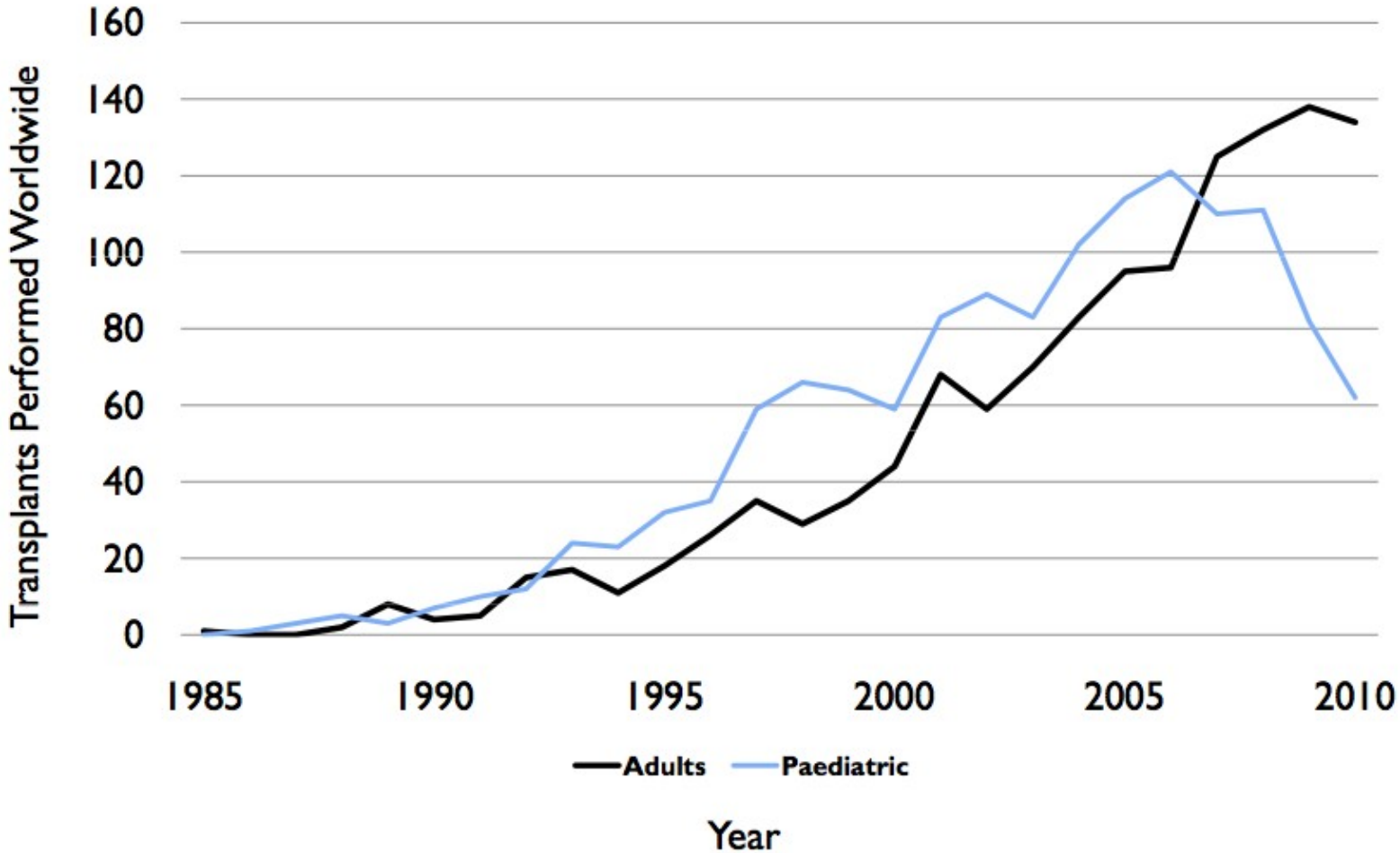
Intestinal Transplantation

Life saving option for lethal complications of Intestinal Failure (IF)

- liver disease
- thrombosis of major vascular accesses
- recurrent catheter related sepsis
- frequent severe dehydration

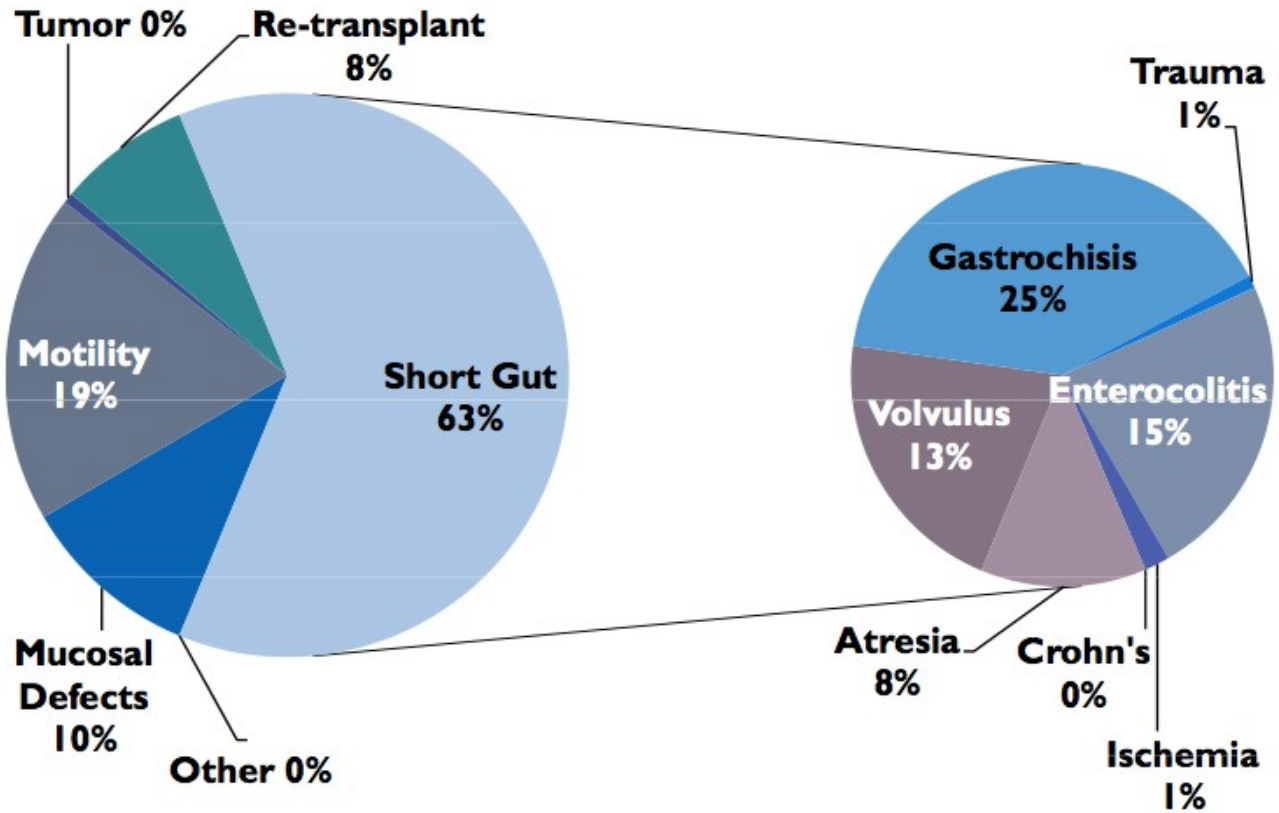
S. Kaufman, Pediatr Transpl 2001, 5: 80-87

Intestinal Transplants Performed

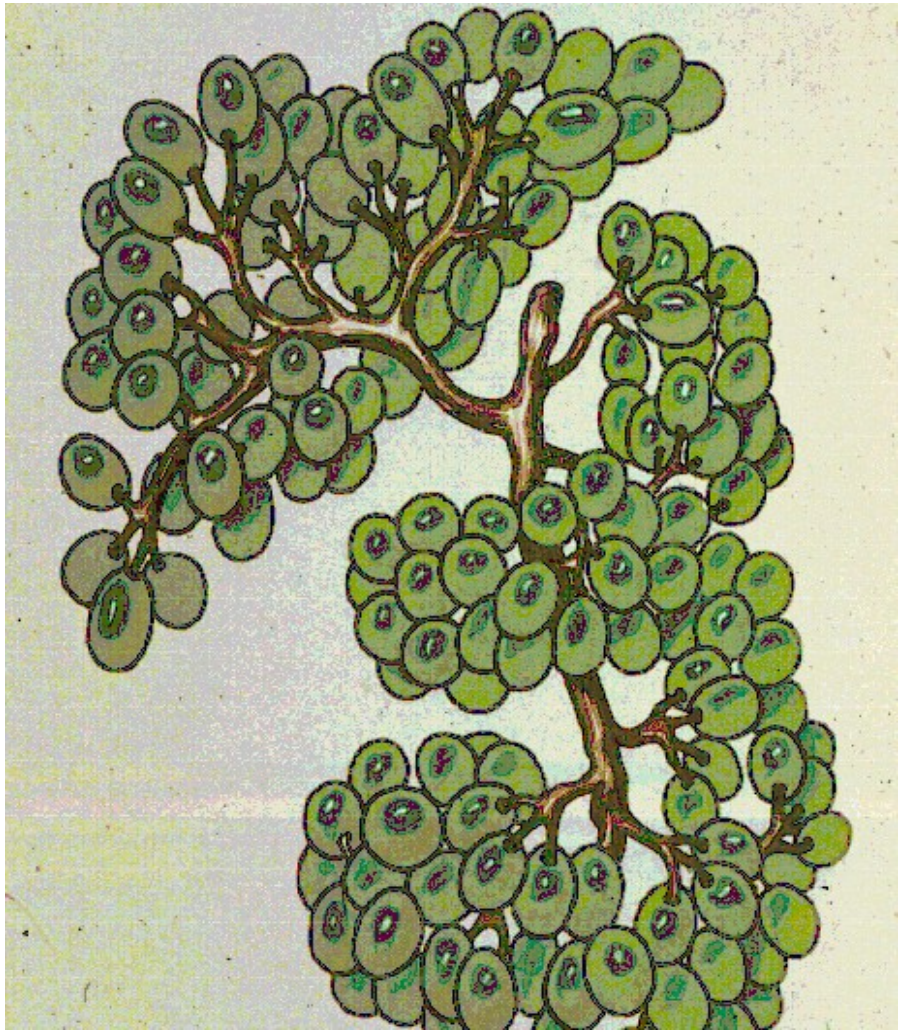


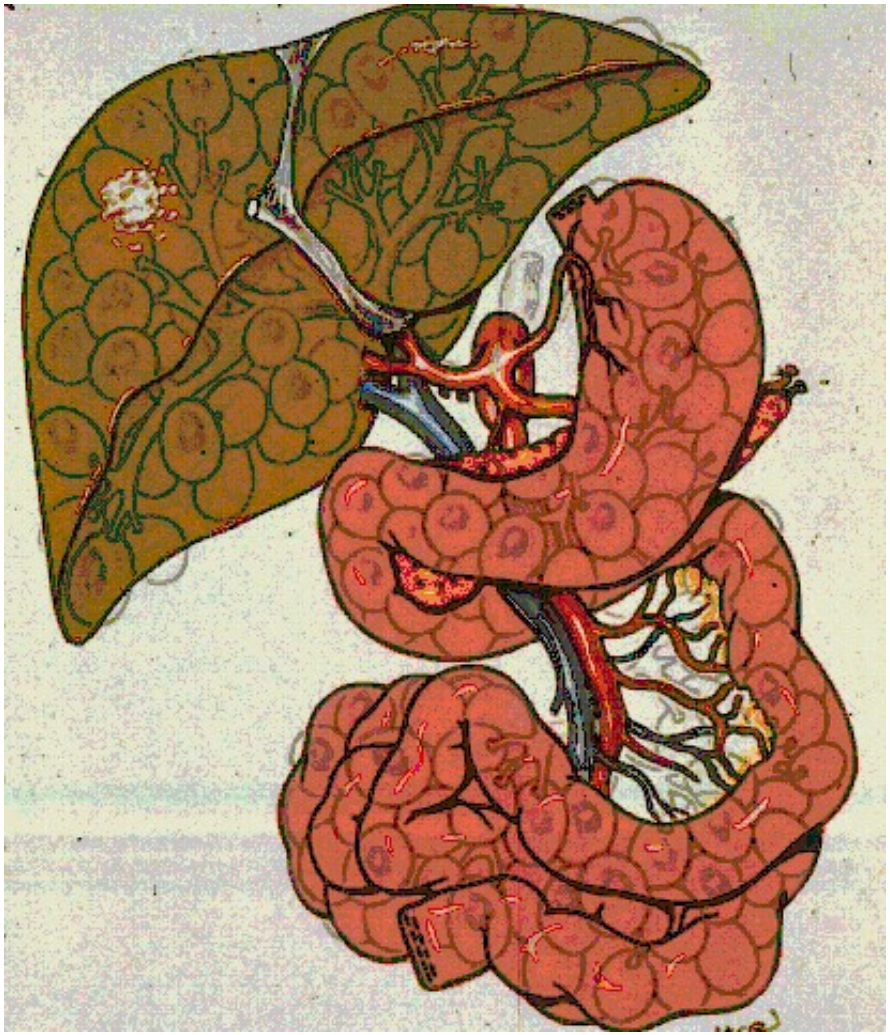
Intestinal Transplant Registry Report © 2011

Causes for Transplantation in Current Era (Children)

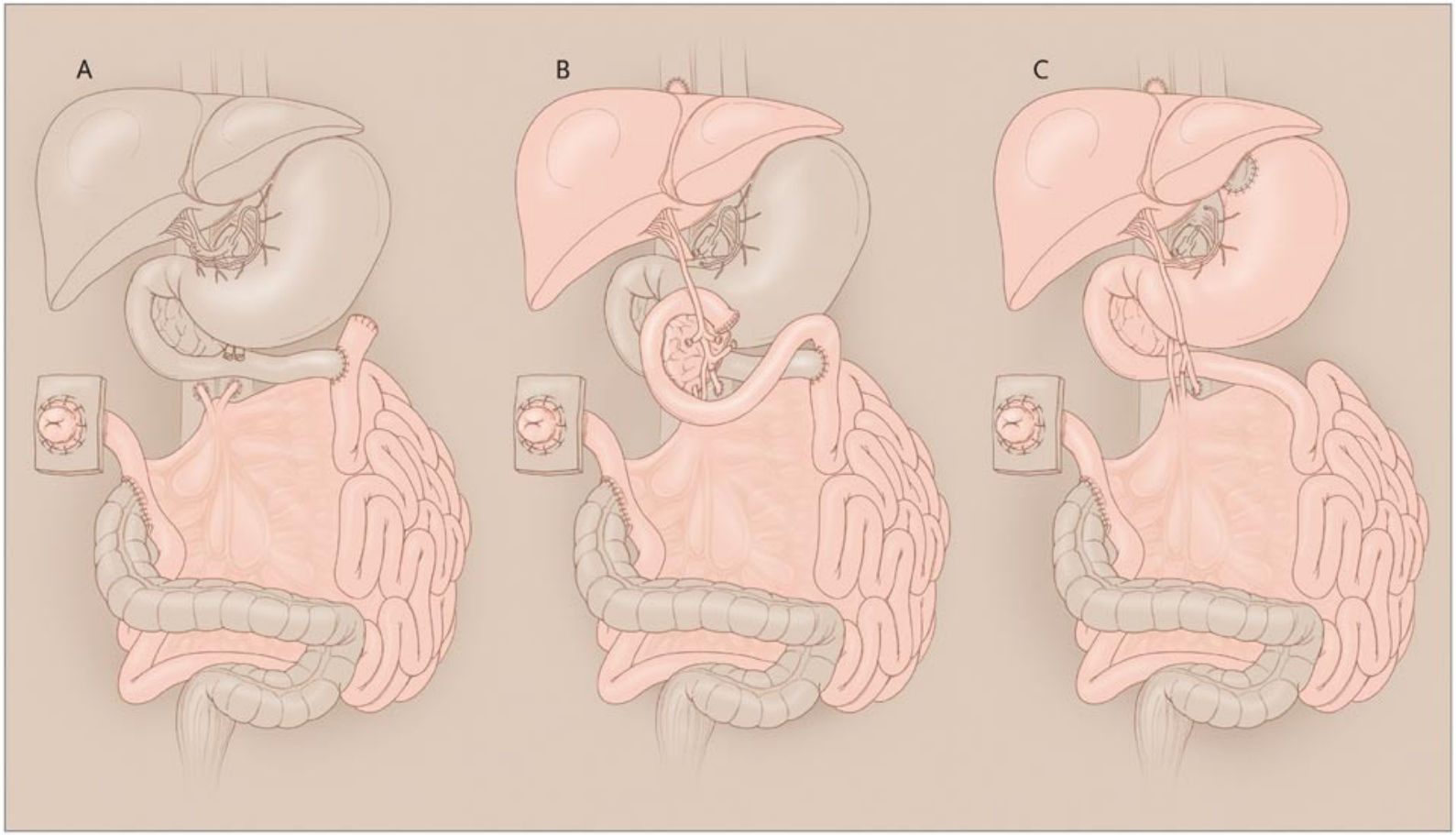


Intestinal Transplant Registry Report © 2011





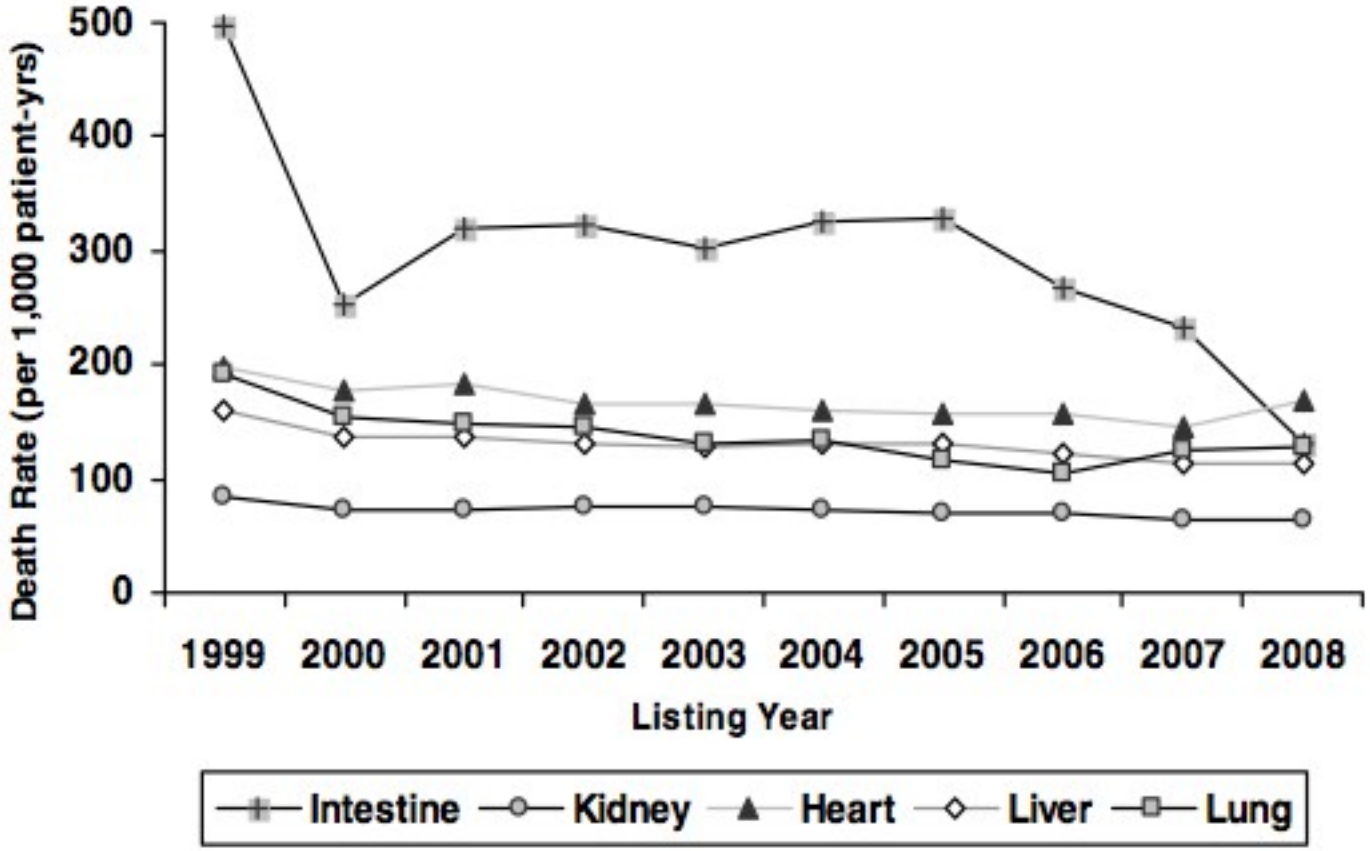
Three Types of Transplants in Intestinal Failure



Fishbein T. N Engl J Med 2009;361:998-1008

The NEW ENGLAND JOURNAL of MEDICINE

American Journal of Transplantation 2010; 10 (Part 2): 1020–1034



TECNICHE DI CHIUSURA DELL'ADDOME

- Espansori cutanei
- Chiusura progressiva (staged closure)
- Protesi
- Innesti cutanei
- Trapianto di parete addominale
- V.A.C. Therapy

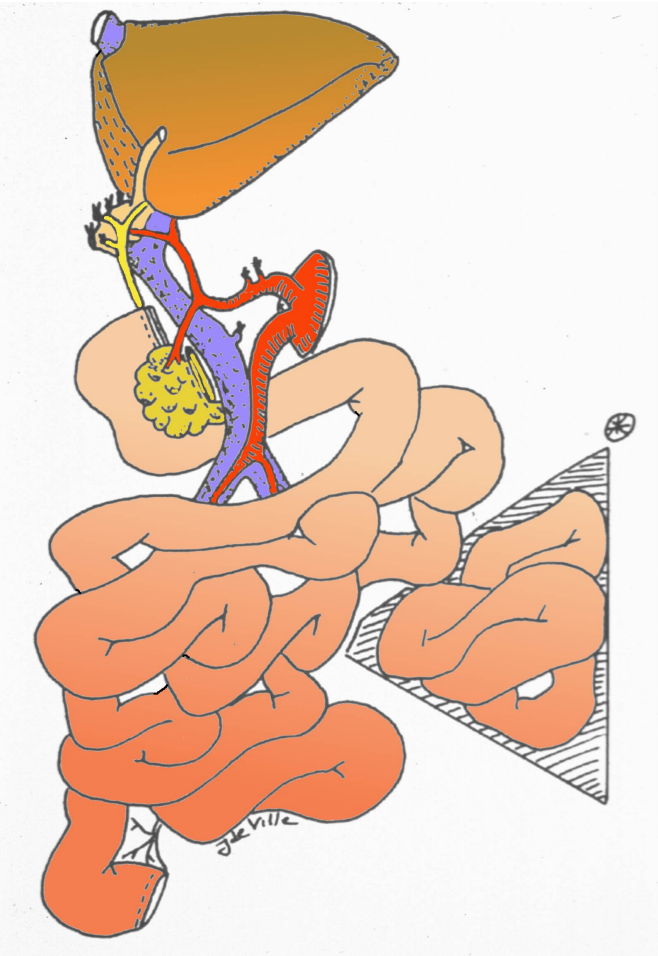
En Bloc combined Reduced-Liver and Small Bowel Transplants
From Large Donors to Small Children

J. De Ville De Goyet, A. Mitchell, A.D. Mayer, S.V. Beath, P.J. McKiernan, D.A. Kelly, D. Mirza and J.A.C. Buckels

Transplantation 69(4) 555-559, 2000

- Reduced liver + small bowel 23

- Median age 1.25 years
- Median DRWR 1.2 (range 0.67 to 6.7)



Living Related Segmental Bowel Transplantation

E. Benedetti et al.

Ann Surg. 2006, 244: 694

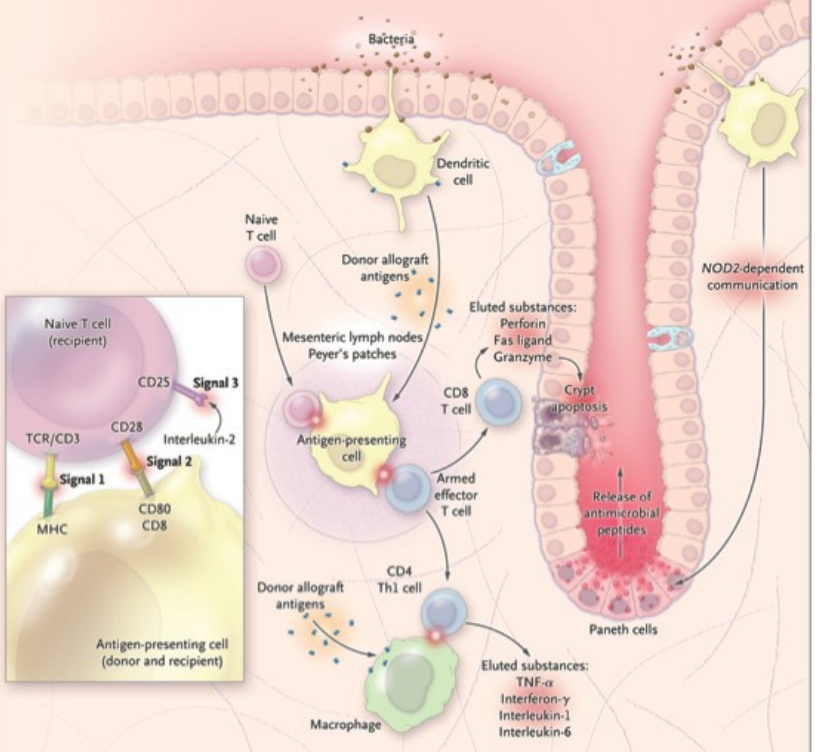
- 5 Tx in 4 children (1 LBTx)
- 1.5-4 years
- 100% Pt 1 year survival

Liver transplantation alone?

- Waiting list mortality is higher in children waiting for LSBTx than in children waiting for LTx.
- Potential advantages of isolated LTx in SBS:
  - Greater experience in liver transplantation procedure, and better overall success.
  - Liver grafts are more available than intestine grafts.
  - Liver transplant corrects end stage liver disease associated to TPN, and may facilitate intestinal adaptation.
  - Liver graft from and adult donor might benefit of enhanced resistance to PNALD.
  - After liver transplantation, surgical procedures to permit small bowel lenghtening may be performed.

•Diamond R.I. Journal of Pediatric Surgery (2006) 41, 955-959

Rigetto



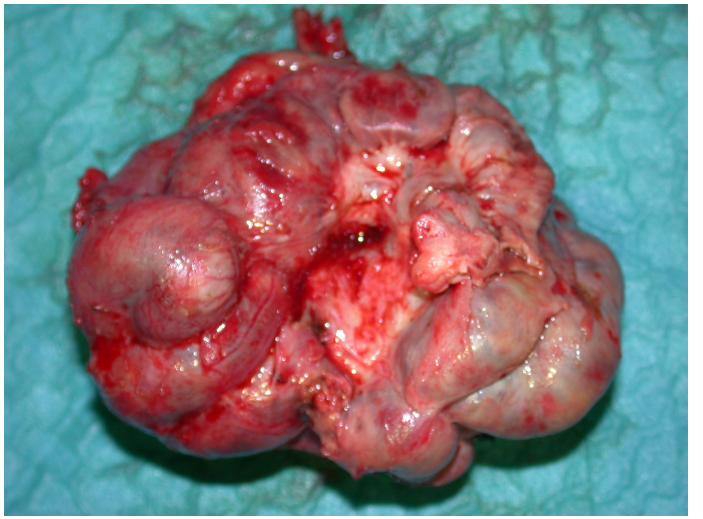
Diagnosi

- Clinica
- Endoscopia
- Istologica

Traslocazione batterica

Infez virali

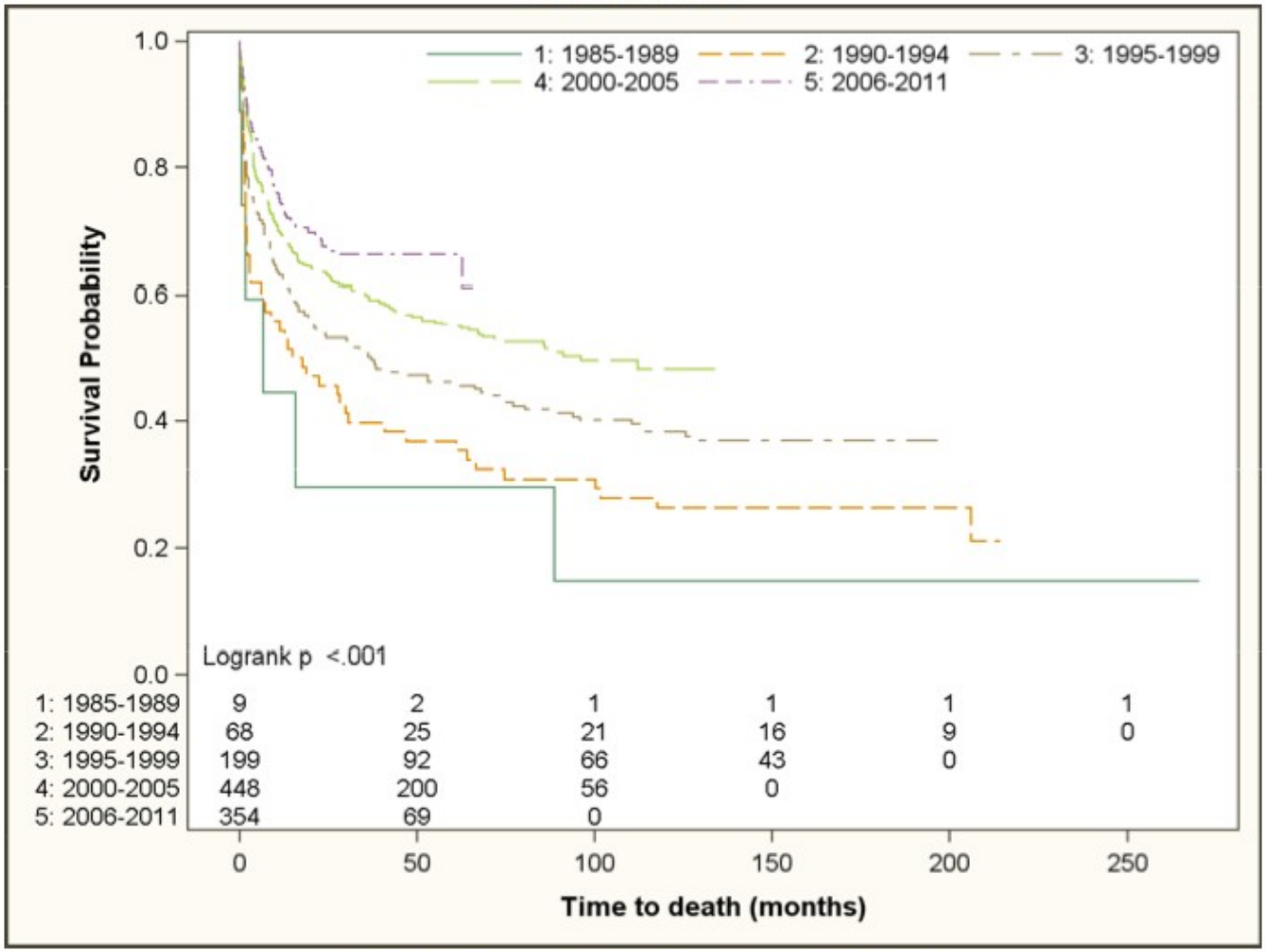
PTLD



Fishbein T. N Engl J Med 2009;361:998-1008

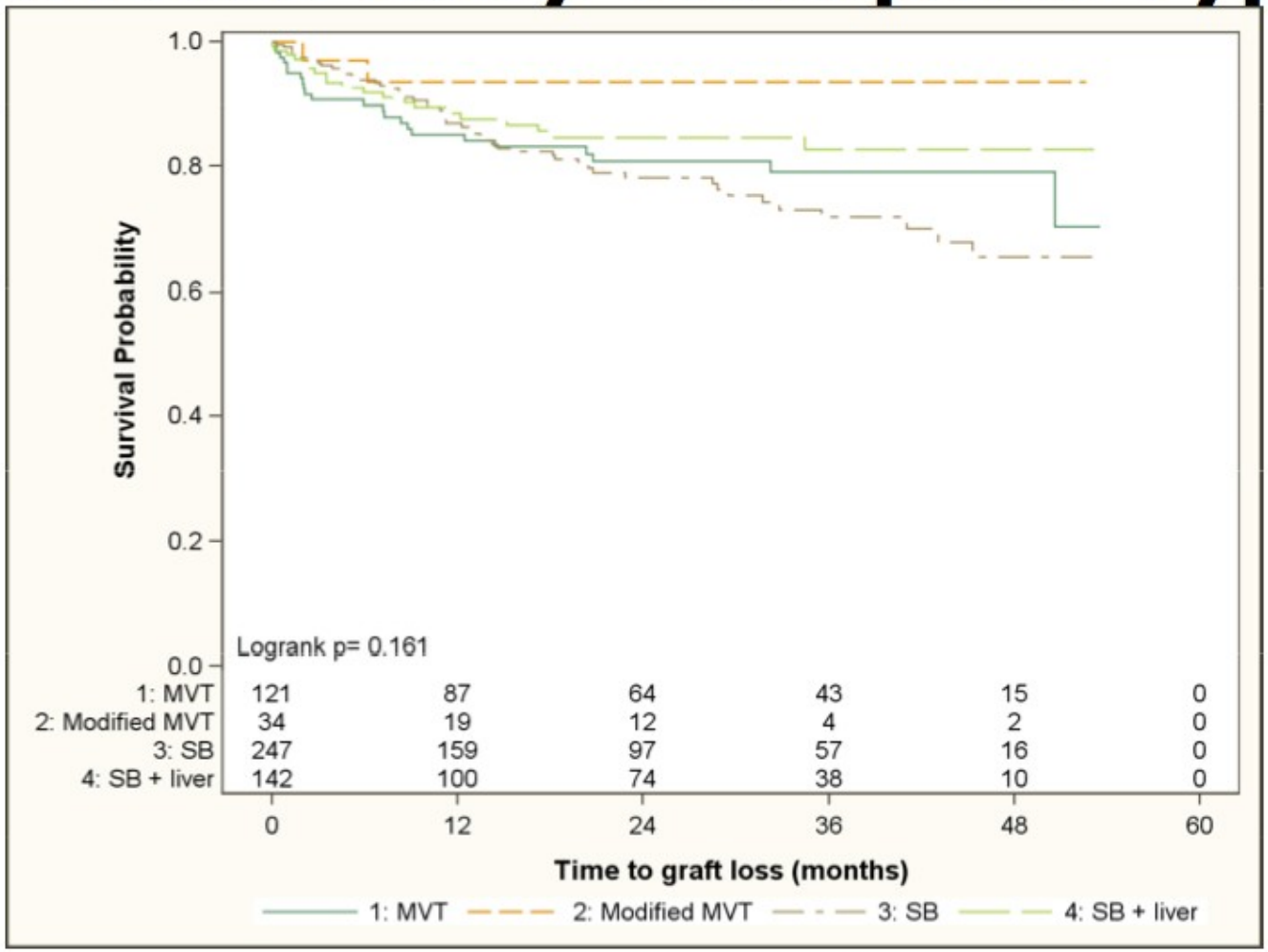
Patient Survival by Era

Children



Intestinal Transplant Registry Report © 2011

Conditional* Graft Survival Current Era by Transplant Type



Intestinal Transplant Registry Report © 2011

Multiple Variable Regression Analysis: Preliminary Results

End-point	Predictor	HR*	P value
Graft Survival 2006-11	Age < 2 yr	1.28	0.08
	Program case volume (low volume centre)	1.22	0.42
	Home	0.76	0.004
	Regraft vs. Primary	1.44	0.001
Conditional graft survival (all eras)	+ Liver component	0.70	<0.001

** Lower ratio = improved survival*

Intestinal Transplant Registry Report © 2011

after transplantation. Responses on the Child Health Questionnaire were similar among children who had undergone transplantation 5 years earlier and healthy children, although the parents of the treated children perceived mild decreases in physical and psychosocial functioning.

Extensive data on costs are also lacking, but published information to date indicates that, like renal transplantation, intestinal transplantation becomes cost-effective after approximately 2 years.[82]

Fishbein T. N Engl J Med 2009;361:998-1008

BACKGROUND

Fabbisogno Italia 3-10 casi per anno

Fino al 2006 nessuna possibilità in ambito nazionale

Migrazione sanitaria: costi e disagi

Risultati scadenti nei centri < 10 casi

OBIETTIVO

Fornire risposta concreta al bisogno nazionale di trapianto intestinale pediatrico

IPOTESI

Inserire il nuovo programma all'interno di una consolidata attività multidisciplinare di alto volume di trapianto pediatrico di fegato e di polmoni

Beneficiare di una solida esperienza di trapianto pediatrico di altri organi per limitare l'impatto della curva di apprendimento

Pediatric Liver Transplantation in Bergamo 1997 – 2011

487 LTx in 418 children

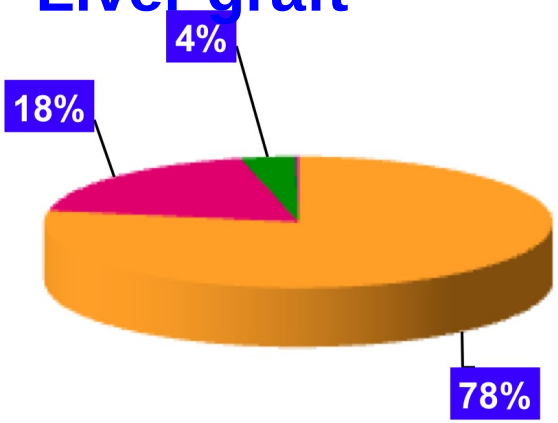
Median age: 1,37 y (range: 22 gg -17.5 y)

Median Weight: 9 kg (range: 2 - 94 Kg)

M/F = 220/198= 1,11

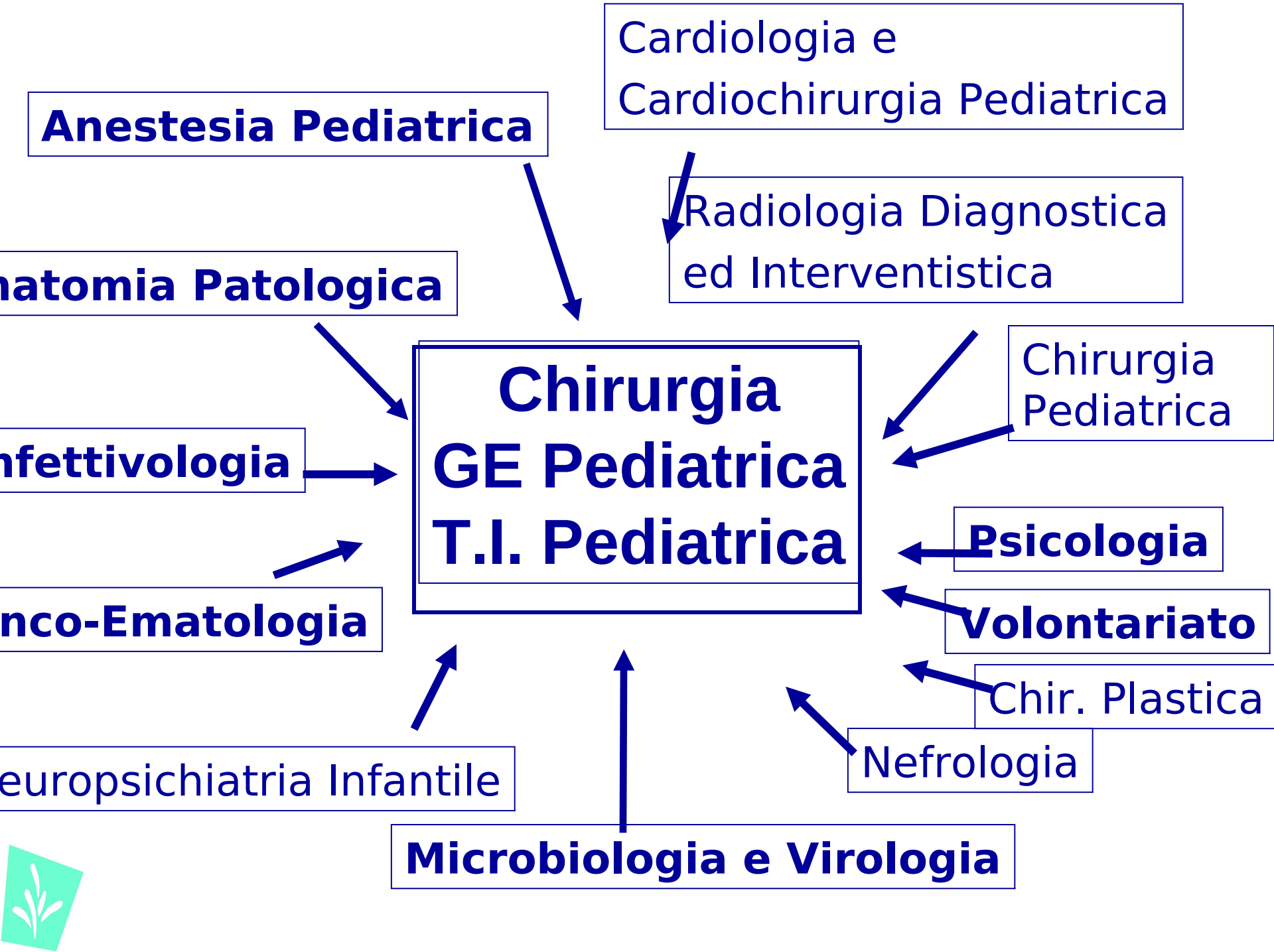
- Split (379)
- Whole (90)
- Reduced (17)
- LDLT (1)

Liver graft



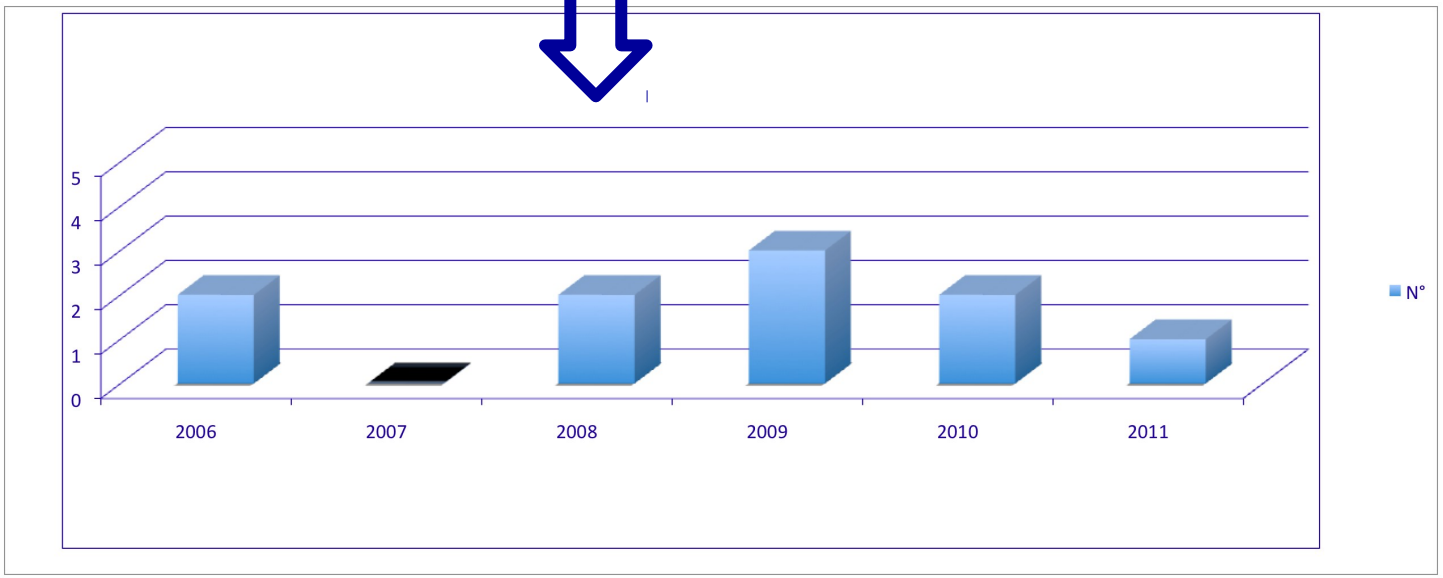
Combined Oltx

+ Kidney	12
+ Bone Marrow	3
Liver-bowel (Split)	2
Multivisceral	4


Cardiologia e
Cardiochirurgia Pediatrica
Anestesia Pediatrica
Radiologia Diagnostica
ed Interventistica
natomia Patologica
Chirurgia
Pediatrica
Chirurgia
GE Pediatrica
T.I. Pediatrica
nfettivologia
Psicologia
nco-Ematologia
Volontariato
Chir. Plastica
europsichiatria Infantile
Nefrologia
Microbiologia e Virologia

TRAPIANTO INTESTINALE 2006-2011

AUTORIZZAZIONE
MINISTERIALE



TRAPIANTO PER INSUFFICIENZA INTESTINALE CRONICA 2006-2011

Pazienti inseriti in lista: 14

Deceduti in attesa: 2

Trapianto di fegato isolato: 1

11 Pazienti

Trapianto di intestino: 9

(10 trapianti)

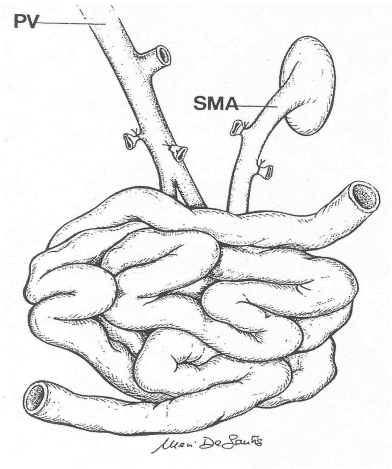
Pazienti in lista d'attesa: 2

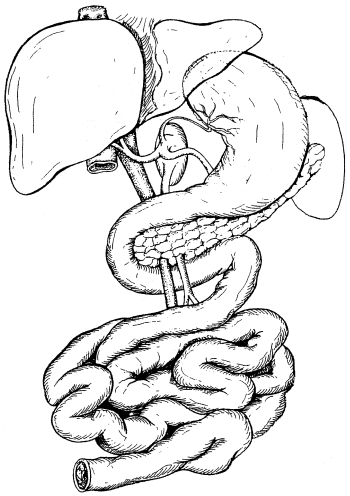
INTESTINAL TX IN BERGAMO 2006 - 2011

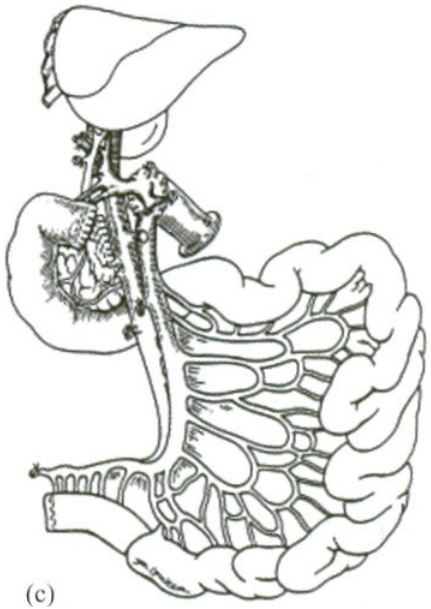
	Years/Kg	Primary Disease	Indication	TX	PELD
1 (M)	7.8 / 22	SB (Volv)	Acess Loss	SBTX	
2 (M)	1.4 / 4.9	SB (Atr.)	PNALD, Access Loss, Bleeding	MVTX	20
3 (M)	7.1 / 21	CIPO	LT Infections	SBTX	
4 (F)	2.3 / 11.4	SB (Atr.)	LT Infections, (PNALD)	SBTX	
ReTx 4	3.9 / 13.4	Chr Rej		SBTX	
5 (M)	1.6 / 6.9	SB (Volv)	PNALD, LT Infections, Bleeding	MVTX	19
6 (F)	9.6 / 28.7	CIPO	PNALD, Bleeding	MVTX	16
7 (F)	2.9 / 10	Microv. Incl.	PNALD, Dehydration	LSBTX	28
8 (F)	9.6 / 26.4	CIPO	Dehidration, LT Infections	MMVTX	
9 (F)	2.8 / 9.3	SB (NEC)	PNALD, Bleeding	MVTX	28
Median	2.9 / 11.4				19.5

TRAPIANTO INTESTINO

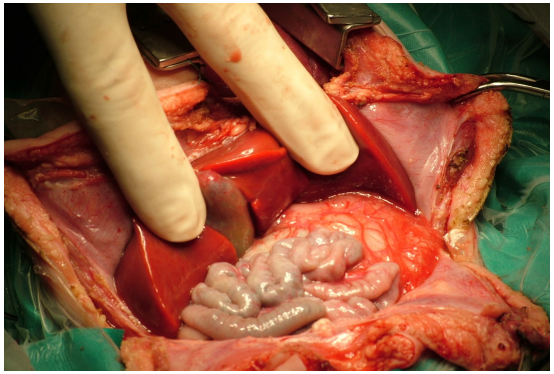
2006-2011







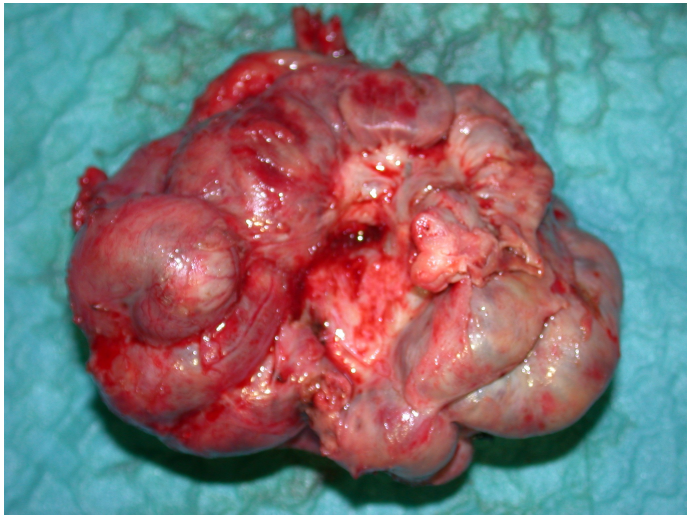
- N=10
  - 4 Intestino isolato (1+colon) – (1 ReTx ridotto)
  - 4 Multiviscerale (1+colon)
  - 1 Multiviscerale modificato (+colon)
  - 1 Fegato (split) Intestino (Ridotto)



- Donatori Intestino
  - Età mediana: 1.1 aa (8gg-14 aa)
  - Peso mediano: 10.5 kg (2.9-48)
  - Ischemia tot. mediana: 350 min. (255-430)

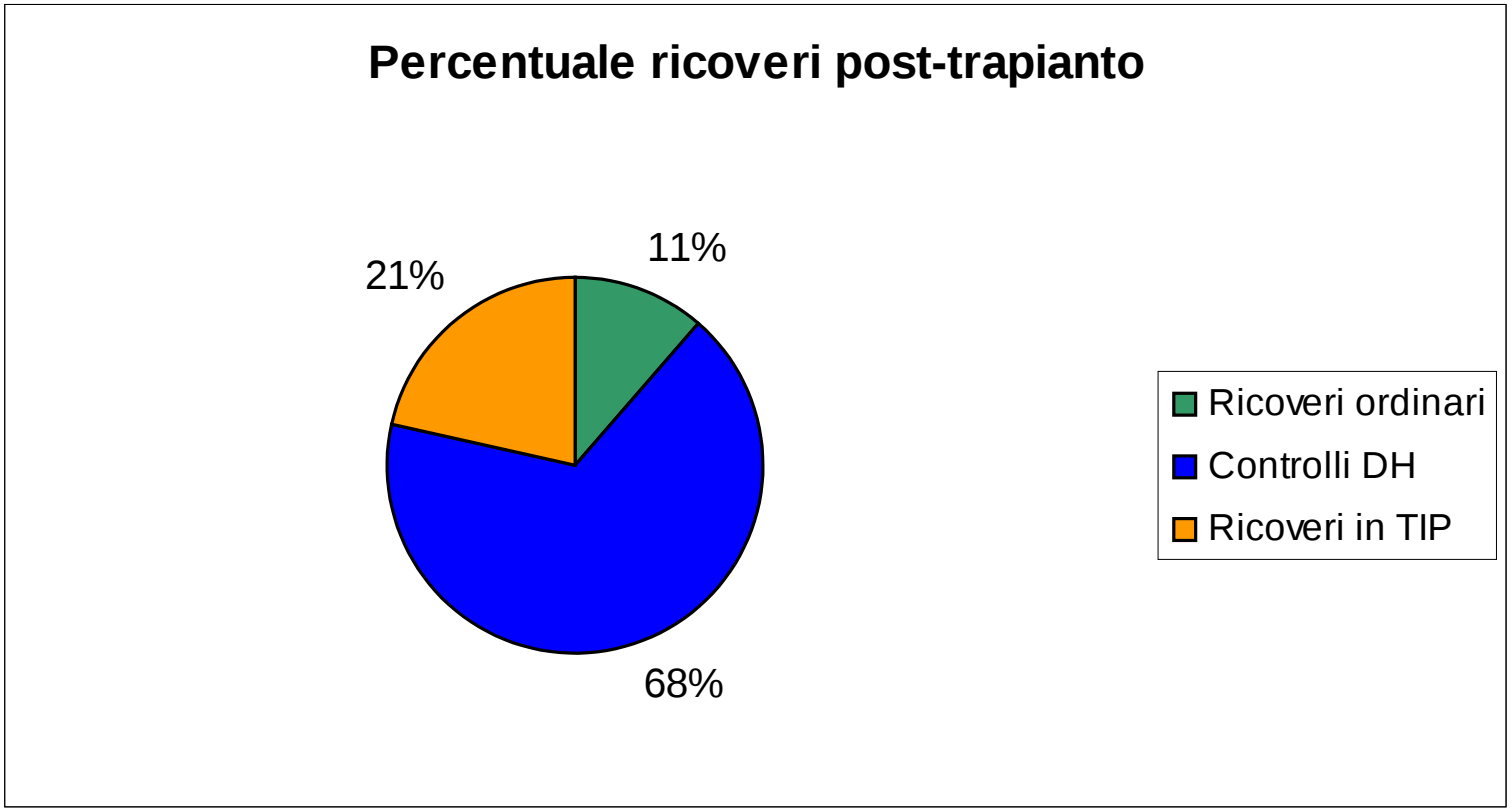
TRAPIANTO INTESTINO

2006-2011

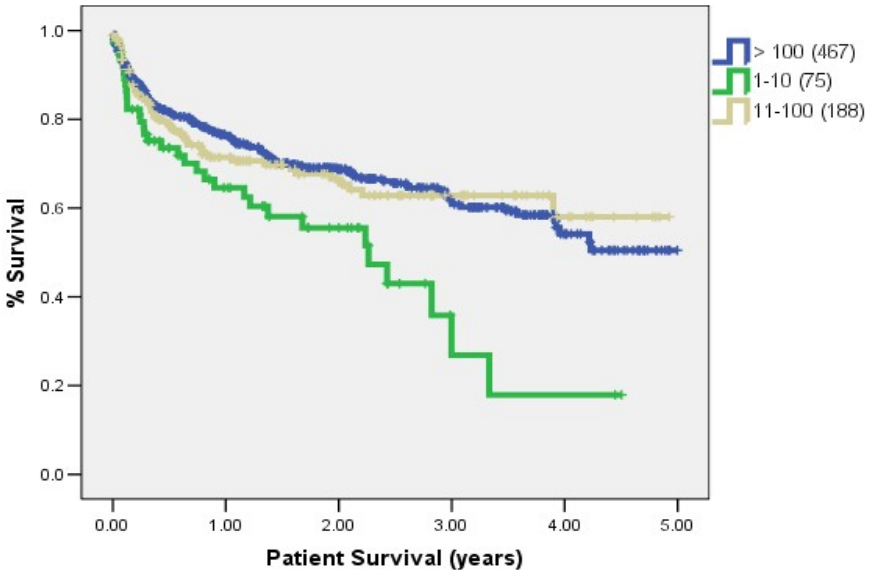


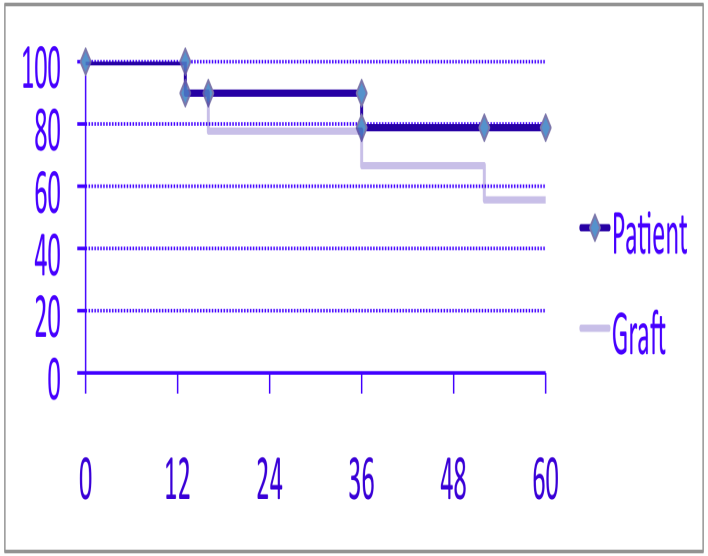
RISULTATI

- Sintesi primaria parete addominale= 100%
- Mortalità Ospedaliera= 0
- TPN free= 100%
- 3 (33.3%) Decessi tardivi 13 (MV), 35 (MV) e 76 (SB) mesi
- 1 (11.1%) ritrapianto per CR a 15 mesi (lista per II ritrapianto)
- 1 ritrapianto in altra sede (CR?) a 4.3 aa, poi deceduto.
- 6 (66.6%) pazienti vivi FU medio 38 mesi (14-52) 5 no TPN



Ricoveri ordinari	Controlli DH	Ricoveri in TIP
30	179	57





Transplantation Proceedings, 42, 1251–1252 (2010)

CONCLUSIONI

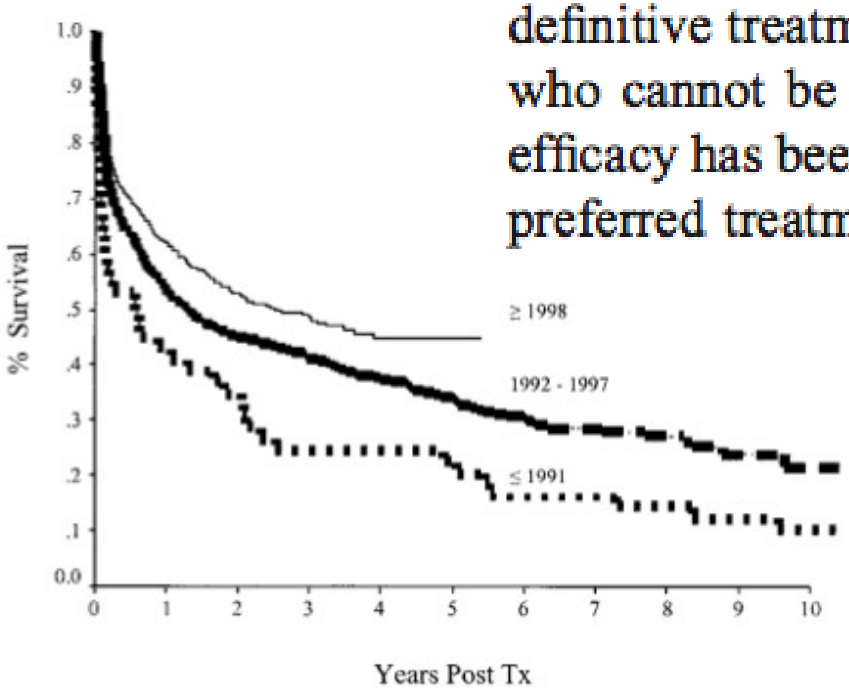
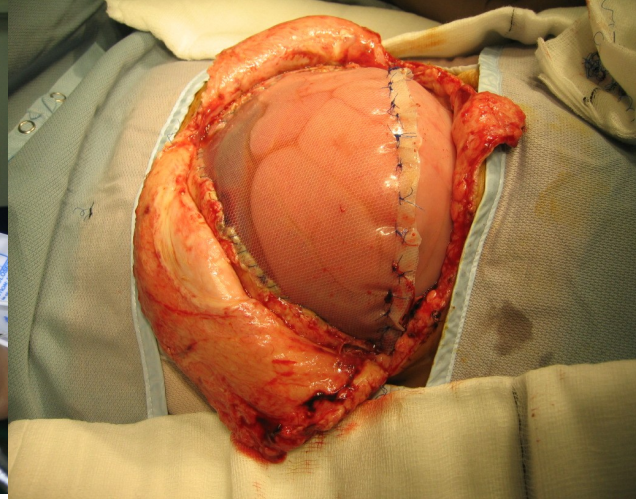
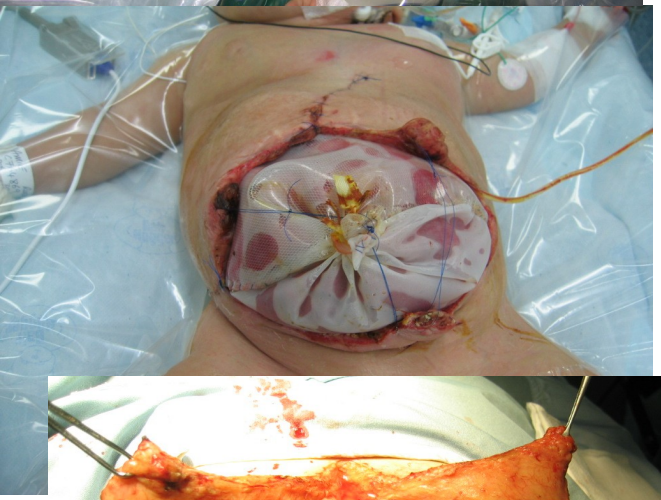
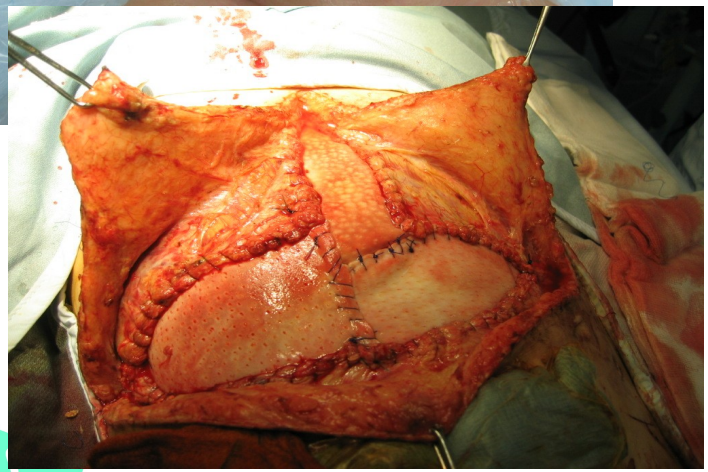
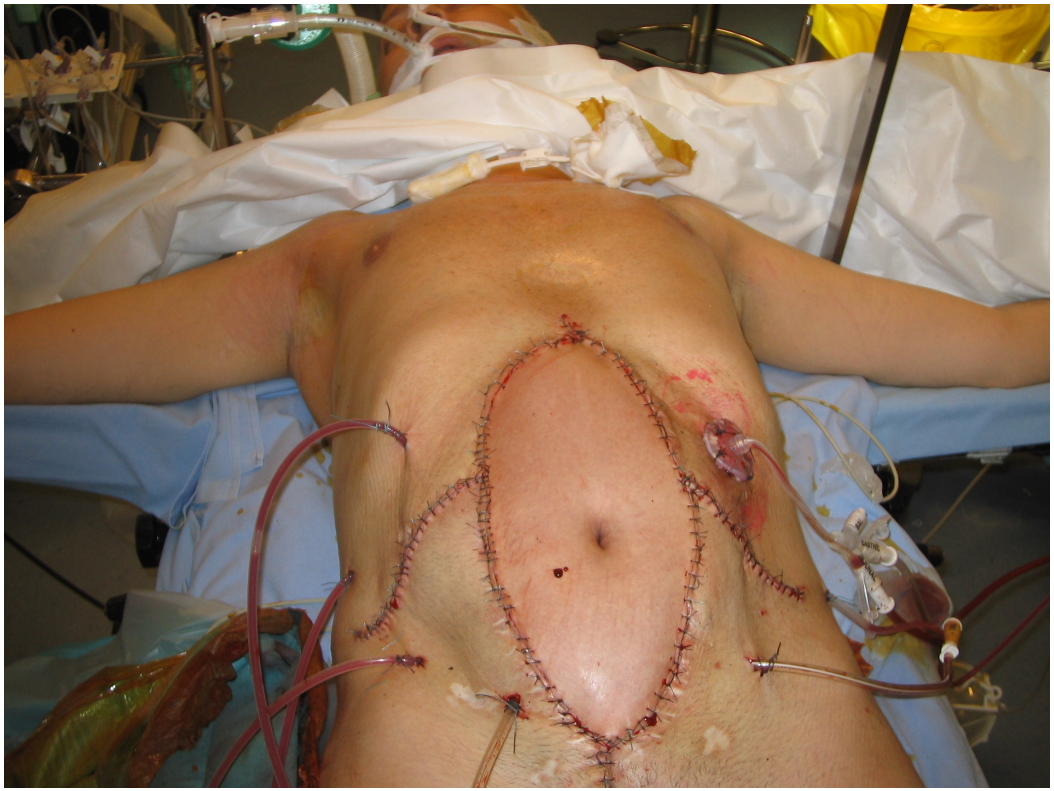
- Trattamento salvavita di alcune complicanze letali della insufficienza intestinale
- Tecniche “consolidate”
- Progressivo miglioramento risultati a breve termine ma non a lungo termine
- Rapporto Rigetto/Infezioni/Tumori problematico
- Scelta Terapia immunosoppressiva
- Programma terapeutico estremamente impegnativo, centri specializzati multidisciplinarità “estrema”, assorbimento risorse
- Comunicazione problematica
- Ipotesi iniziale “non smentita”

2003 Report of the Intestine Transplant Registry

A New Era Has Dawned

Annals of Surgery • Volume 241, Number 4, April 2005

In conclusion, intestine transplantation has become the definitive treatment of patients with chronic intestinal failure who cannot be maintained on parenteral nutrition. Proof of efficacy has been attained,[6] and the objective of becoming the preferred treatment of gut failure is within sight.



	0	1	3	5	7	9
≥ 1998	641	290	101	16		
1992 - 1997	299	158	122	101	42	18
≤ 1991	49	21	12	11	8	6