Armed Forces Bone Marrow Transplant Centre Rawalpindi: Nine years of Stem Cell Transplant Activity

Parvez Ahmed, Qamar Un Nisa Chaudhry, Tariq Mahmood Satti, Shahid Raza, Syed Kamran Mahmood, Muhammad Akram

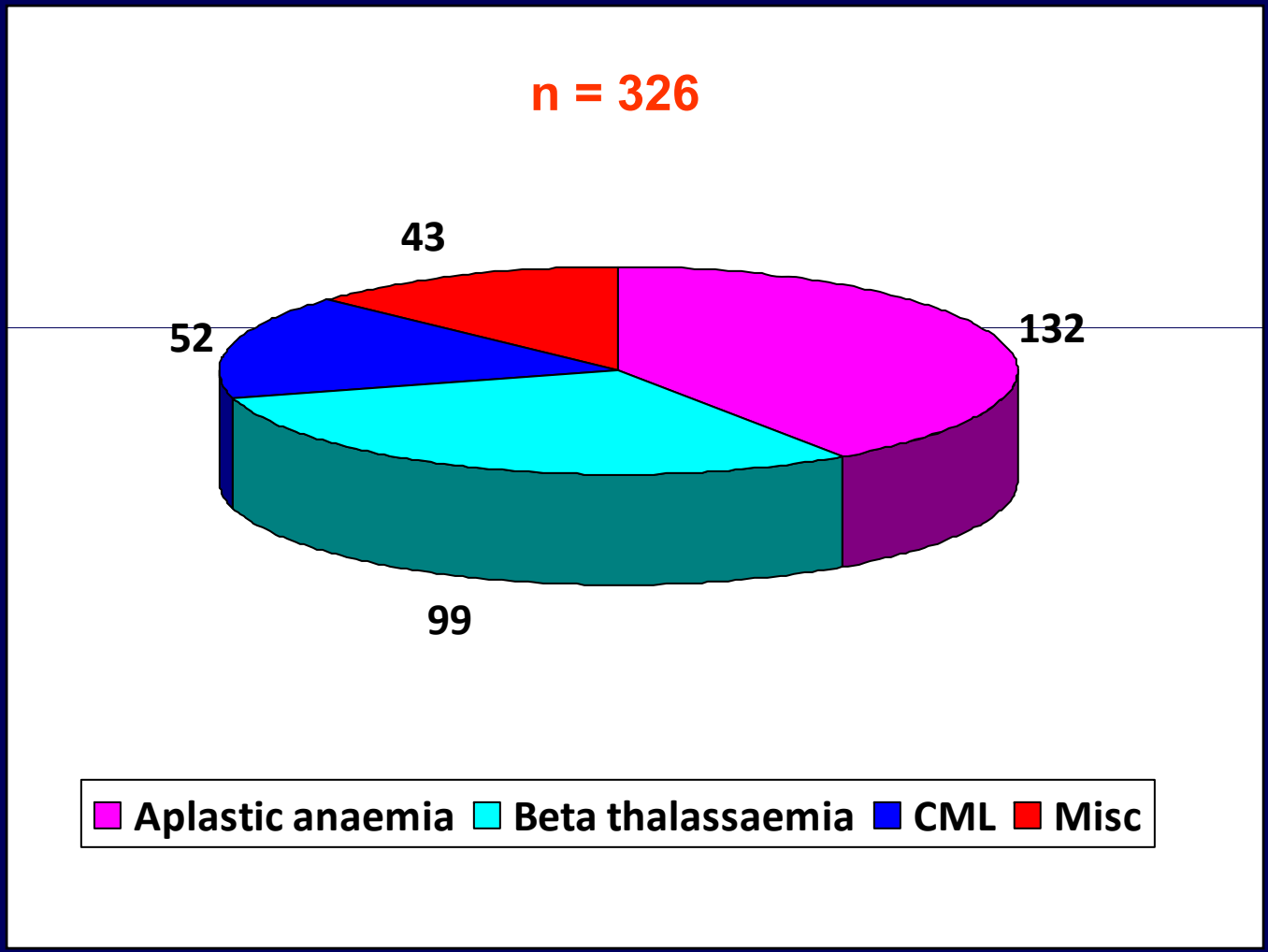
The beginning

19 July 2001

Stem Cell Transplants

• Total Transplants	338
• Allogeneic	326
• Autologous	12

Distribution of Allogeneic SCT cases



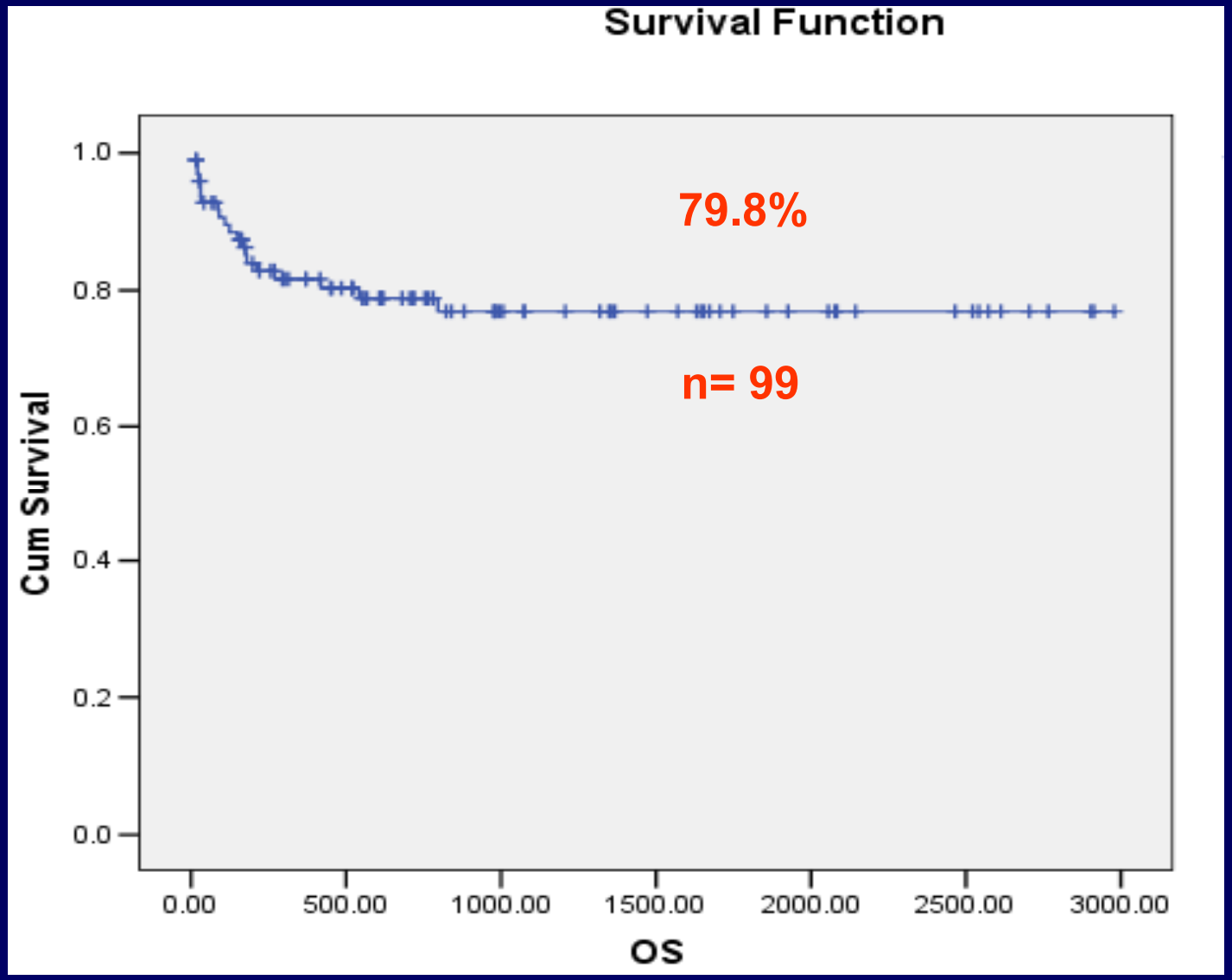
Thalassaemia

Patient's Characteristics

• Mean age:	4.5 yrs (1-14)
• Male/Female	71/28
• Major ABO mismatch	19
• Source of Stem Cell:	
– BM	79
– PBSC	20

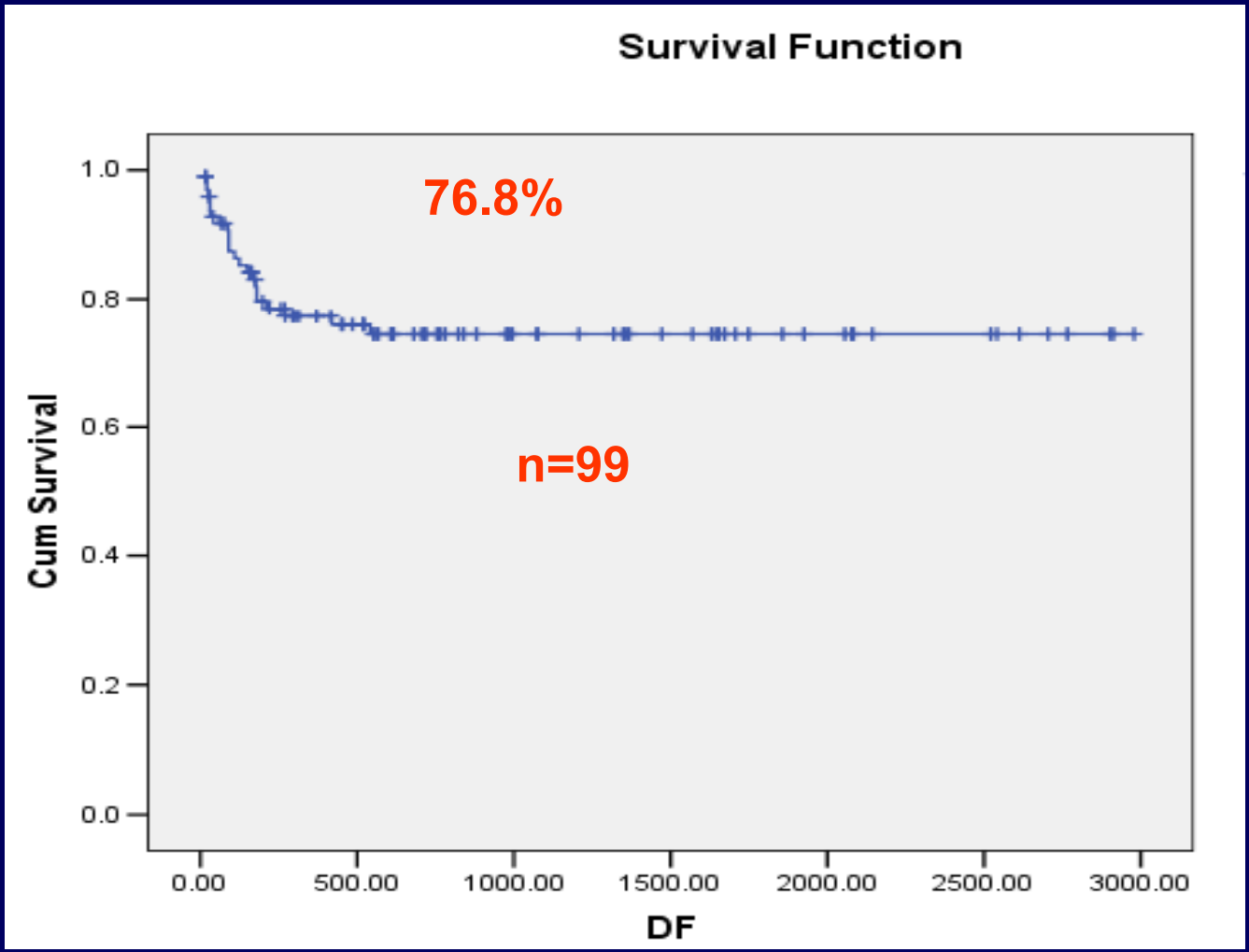
Thalassaemia OS

(Mean Follow up 889 days)



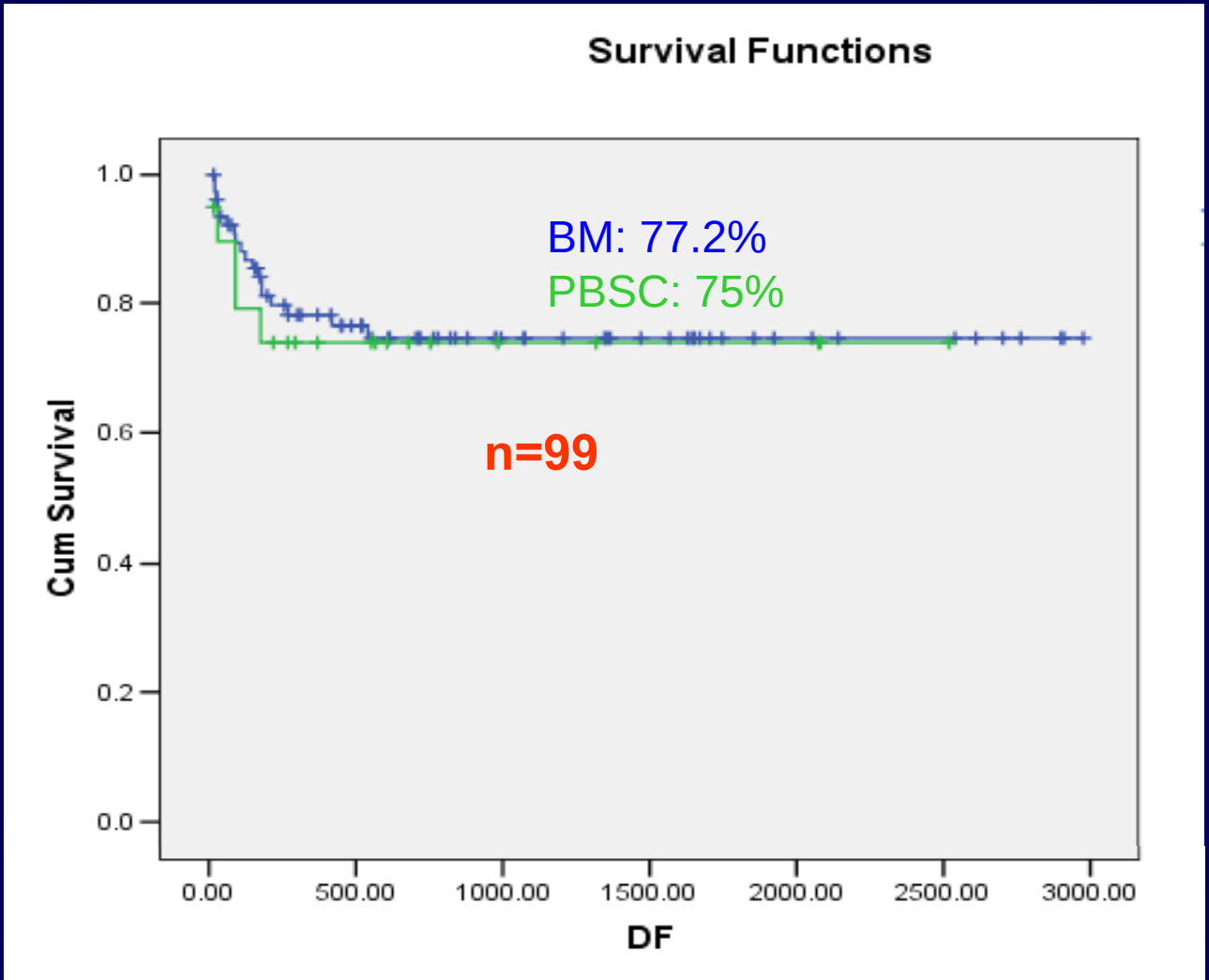
Thalassaemia DFS

Mean Follow up 820 days



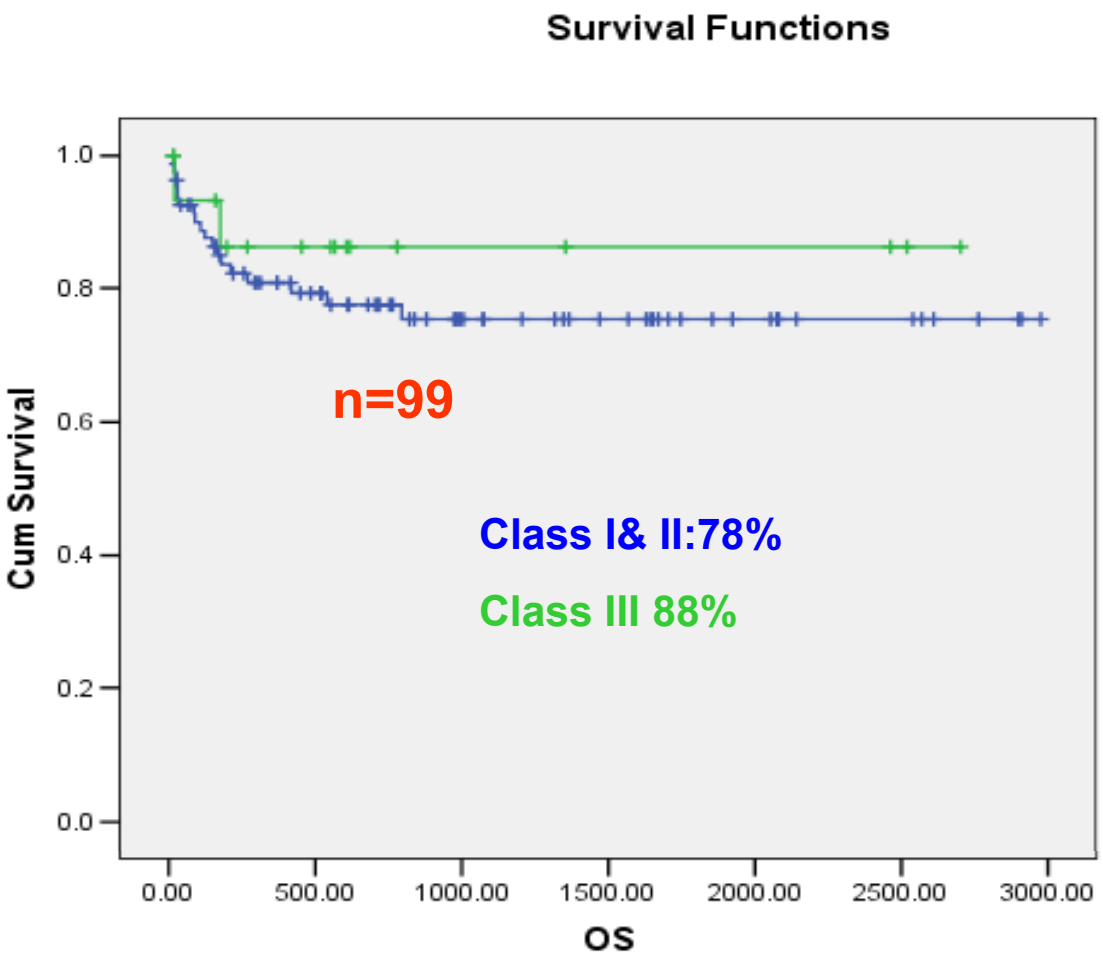
Thalassaemia DFS

Effect of BM vs PBSC



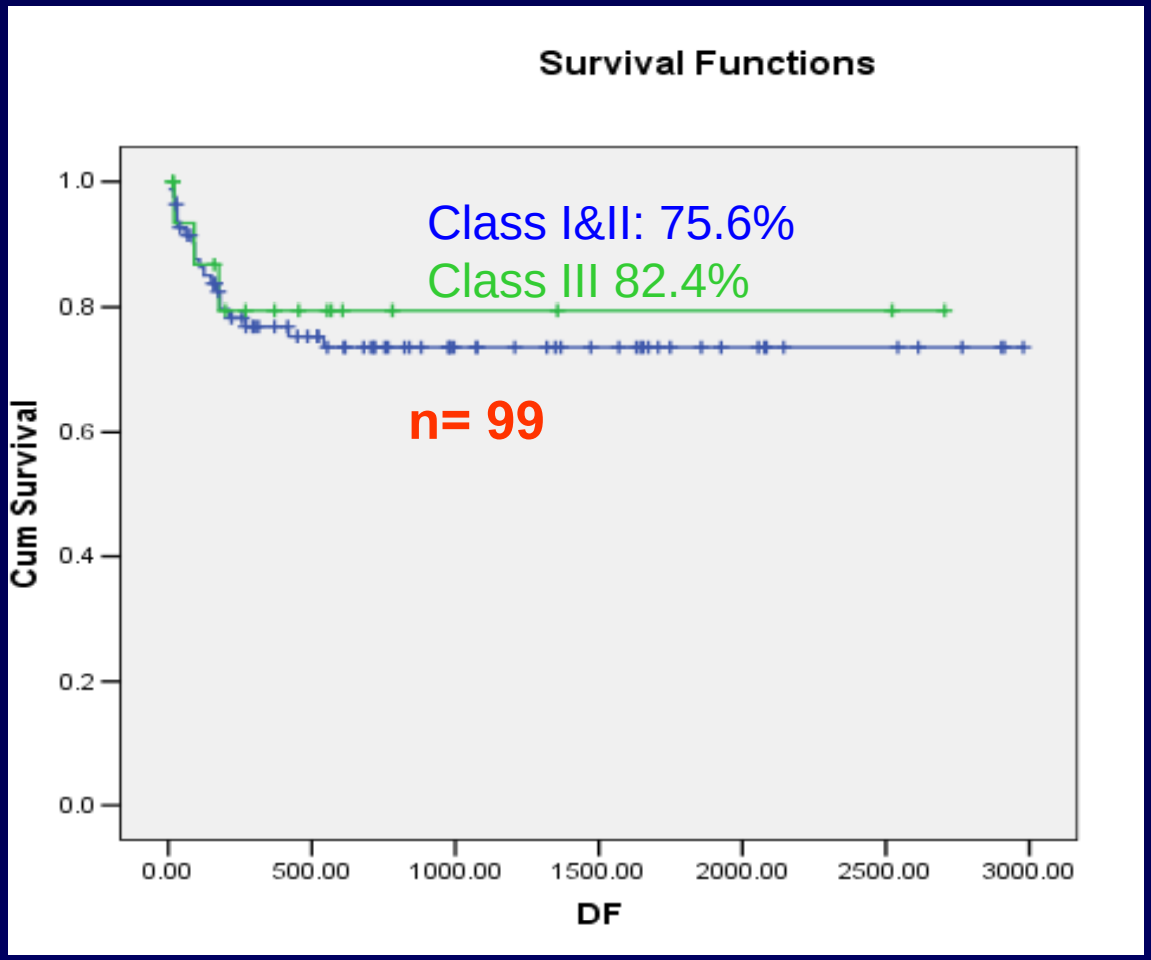
Thalassaemia OS

Effect of Risk Class



Thalassaemia DFS

Effect of Risk Class



Chronic Myeloid Leukaemia

Patient's Characteristics

• Mean age:	28 yrs (7-54)
• Male/Female	43/9
• Source of Stem Cell:	
– PBSC	50
– BM	2

Chronic Myeloid Leukaemia

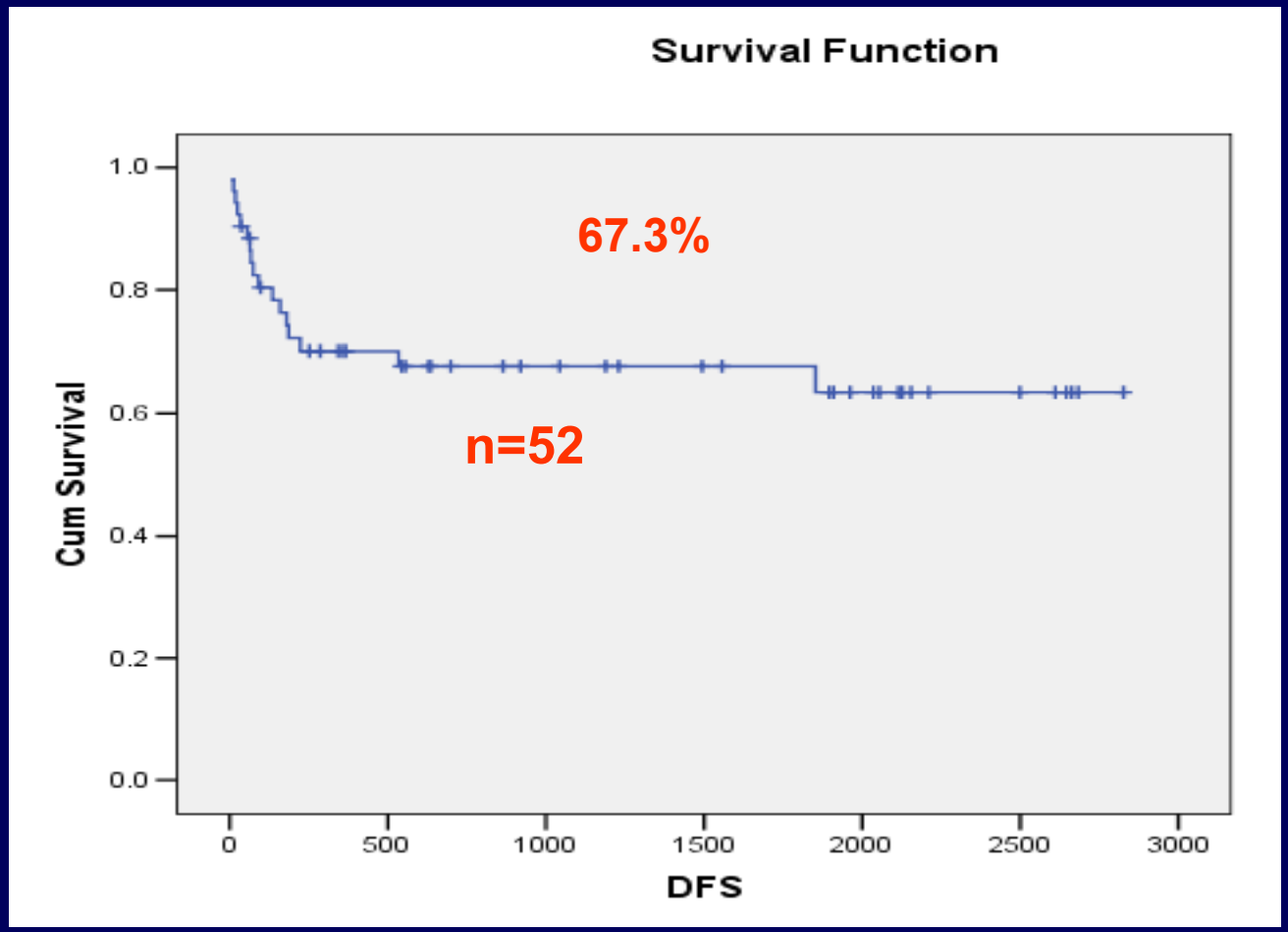
Important Complications

- Ac GVHD: 13 (25%)
- Ch GVHD: 11 (21%)
- VOD: 3 (5%)

- Causes of death: Septicaemia, fungal infections - Aspergillosis, CMV pneumonia & enteritis

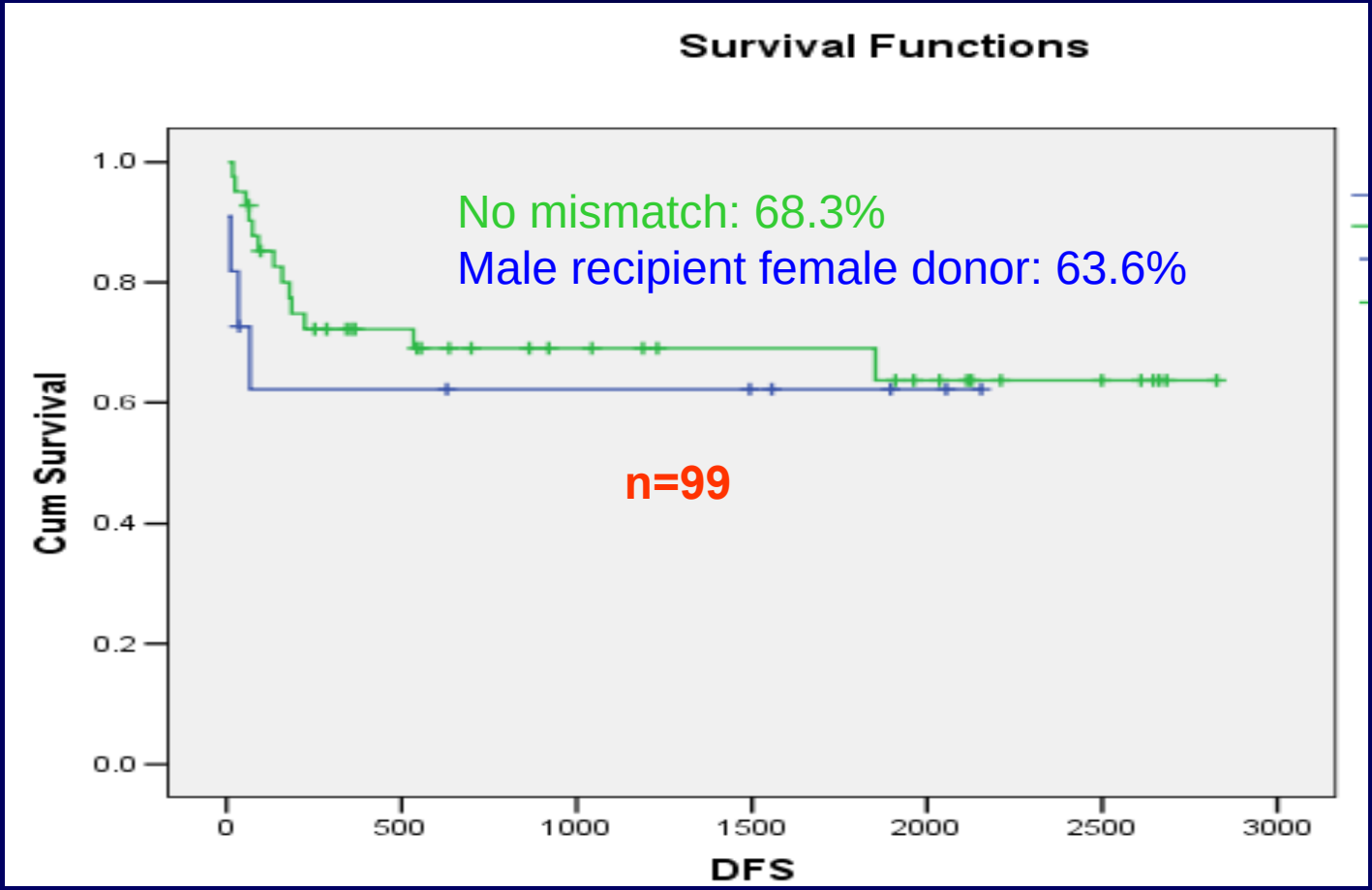
Chronic Myeloid Leukaemia DFS

Mean Follow up 985 days



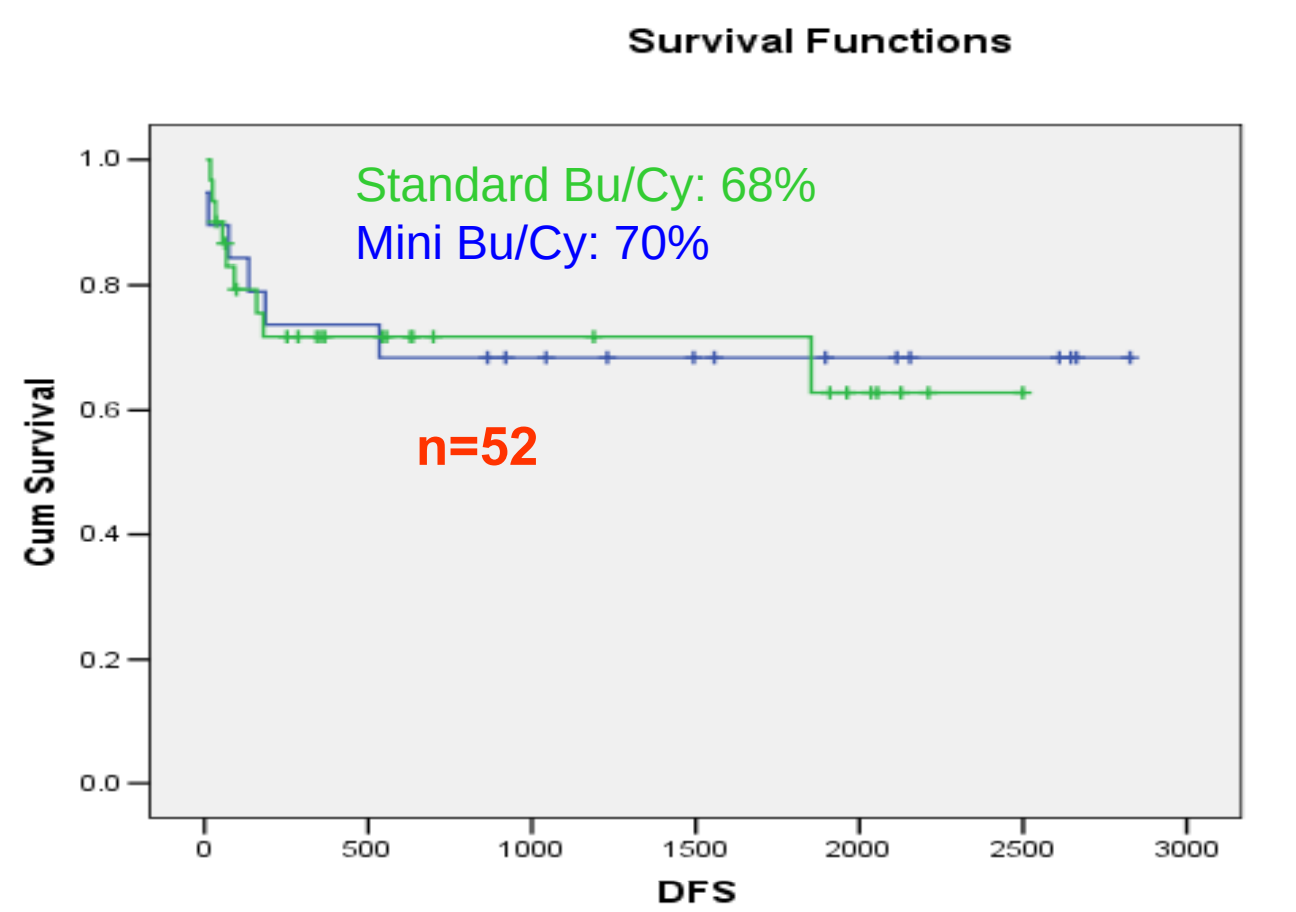
DFS Chronic Myeloid Leukaemia

Effect of recipient/donor sex mismatch



DFS Chronic Myeloid Leukaemia

Mini vs Big Bu/cy Conditioning



Outcome of Aplastic Anemia Patients Receiving Fludarabine Based Conditioning for Haematopoietic Stem Cell Transplantation: a comparison with standard conditioning

Qamar Un Nisa Chaudhry, Parvez Ahmed, Tariq Mahmood Satti, Shahid Raza, Syed Kamran Mahmood, Muhammad Akram, Manzar Buzdar, Muhammad Usman

Our Challenges

Lack of awareness

Financial constraints

Lack of appropriate health care facilities

↓

Delay in diagnosis and transplant referral

↓

Extensive exposure to blood and blood products

Prior treatment with steroids/CSA/androgens

Concomitant infections

Graft rejection & Poor Outcome

Standard Conditioning

Cyclophosphamide 200 mg/kg + ALG (horse) 45 mg/kg

OR

Cyclophosphamide 200 mg/kg + ATG (rabbit) 11.25 mg/Kg

Fludarabine based conditioning

Cyclophosphamide 300 mg/m^2+Fludarabine 120 mg/kg

+

ATG 15 mg/kg

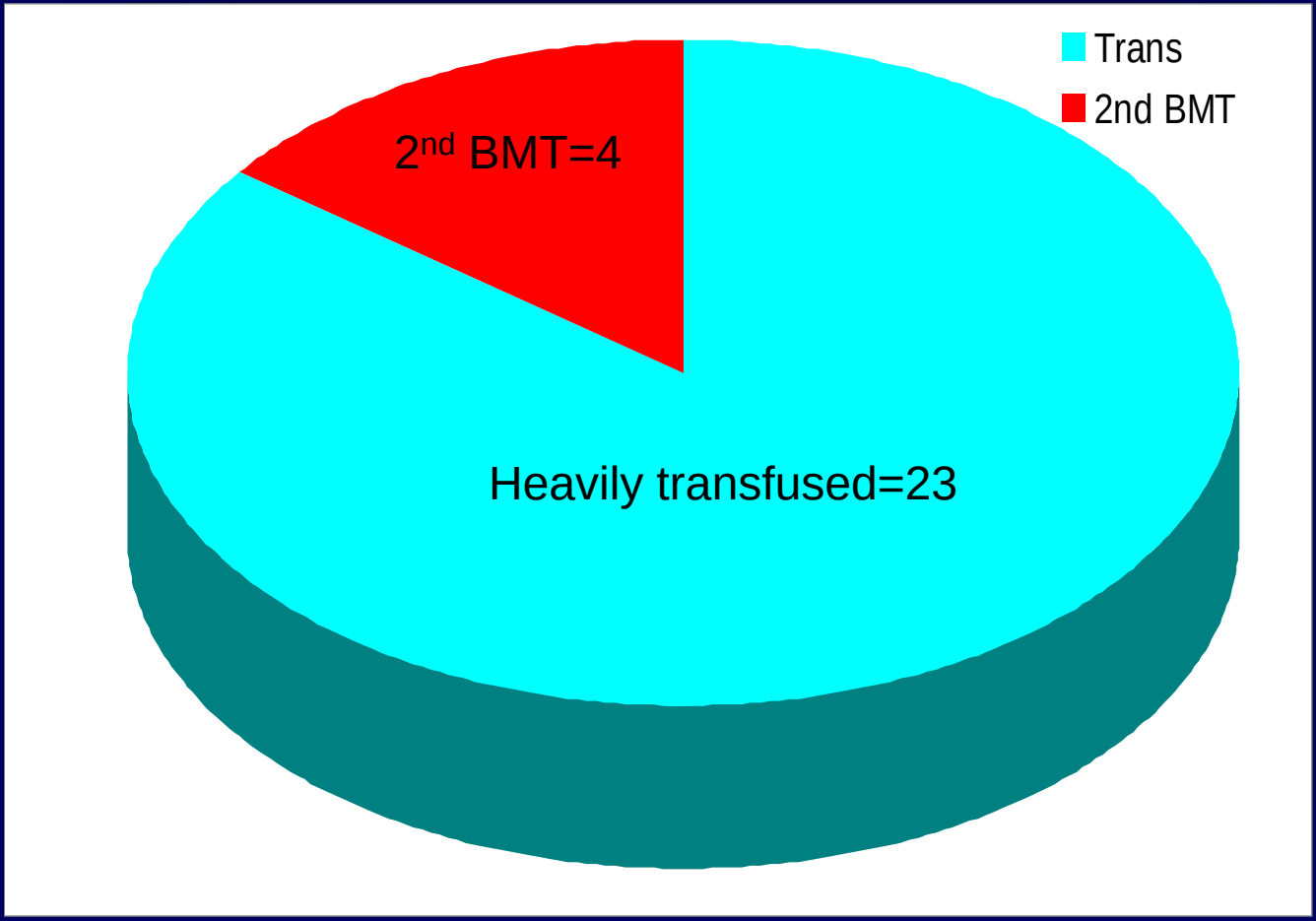
PATIENTS CHARACTERISTICS

(n=124)

Standard conditioning
n=97

Flu/Cy/ATG
n=27

PATIENTS CHARACTERISTICS
Fludarabine conditioning n=27



PATIENTS CHARACTERISTICS
Sex distribution (n=124)

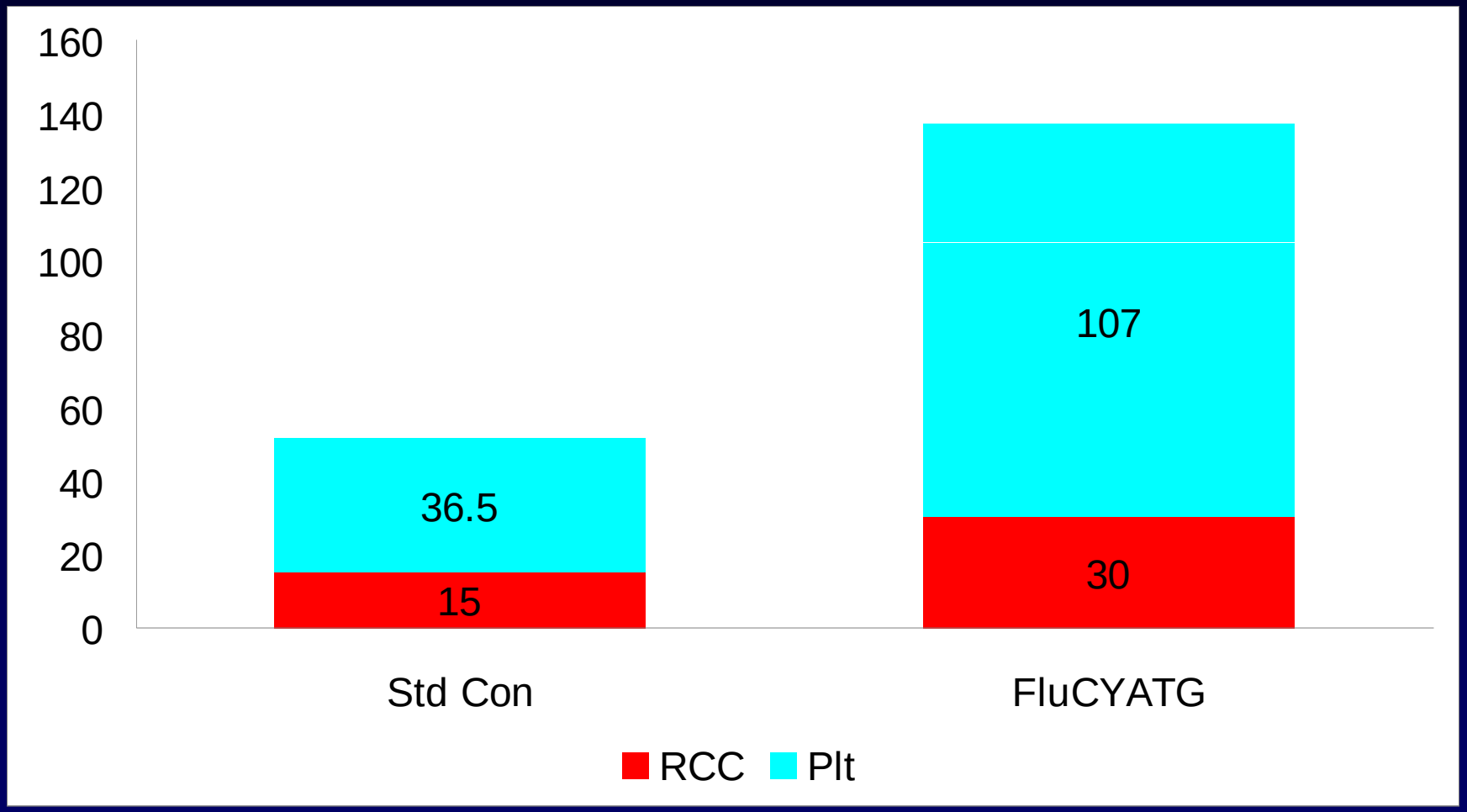
	Male	Female
STD Cond	70	27
FLU/Cy/ATG	18	9

PATIENTS CHARACTERISTICS

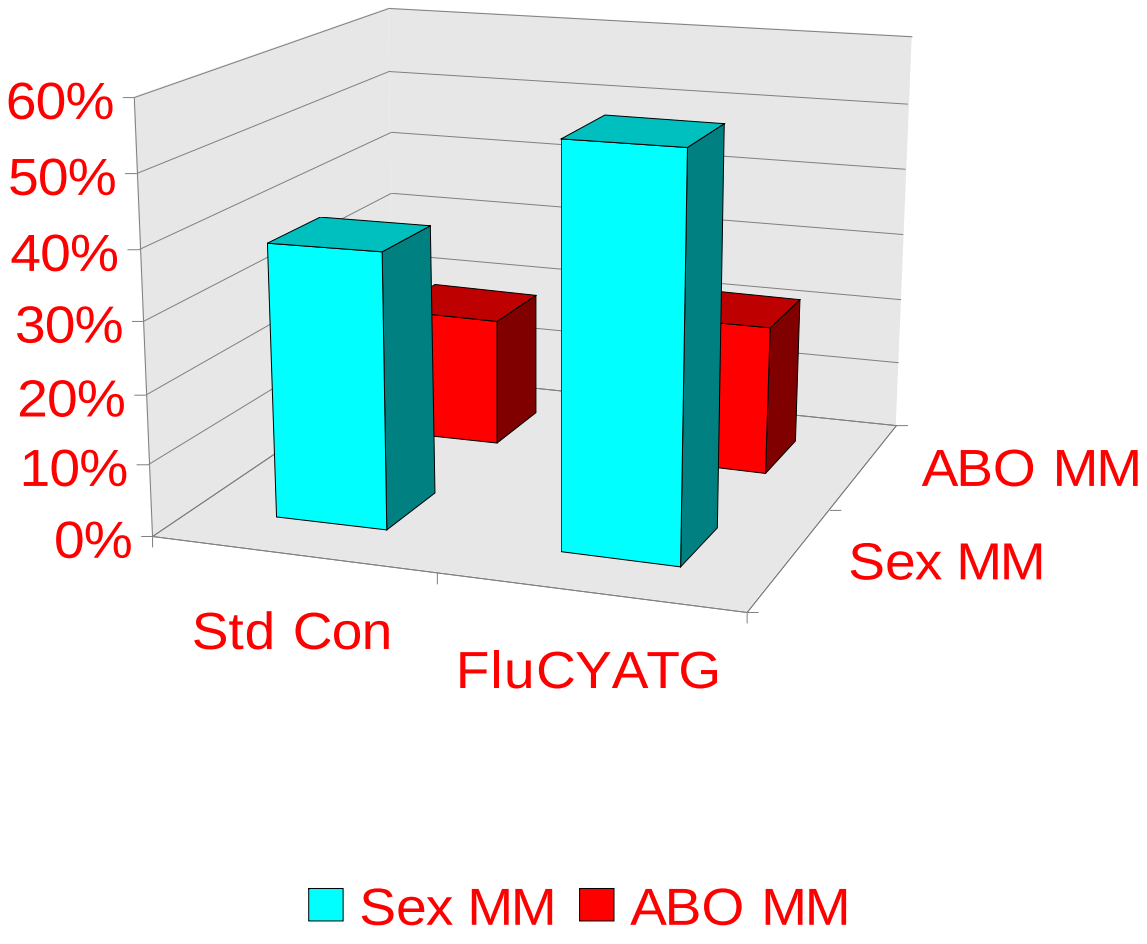
Age (n=124)

	mean	max	mean
Standard Cond	16 yrs	38 yrs	16 yrs
FLU/Cy/ATG	6 yrs	43 yrs	17 yrs

Patients Characteristics
Pre-transplant Transfusions



ABO & sex mismatch



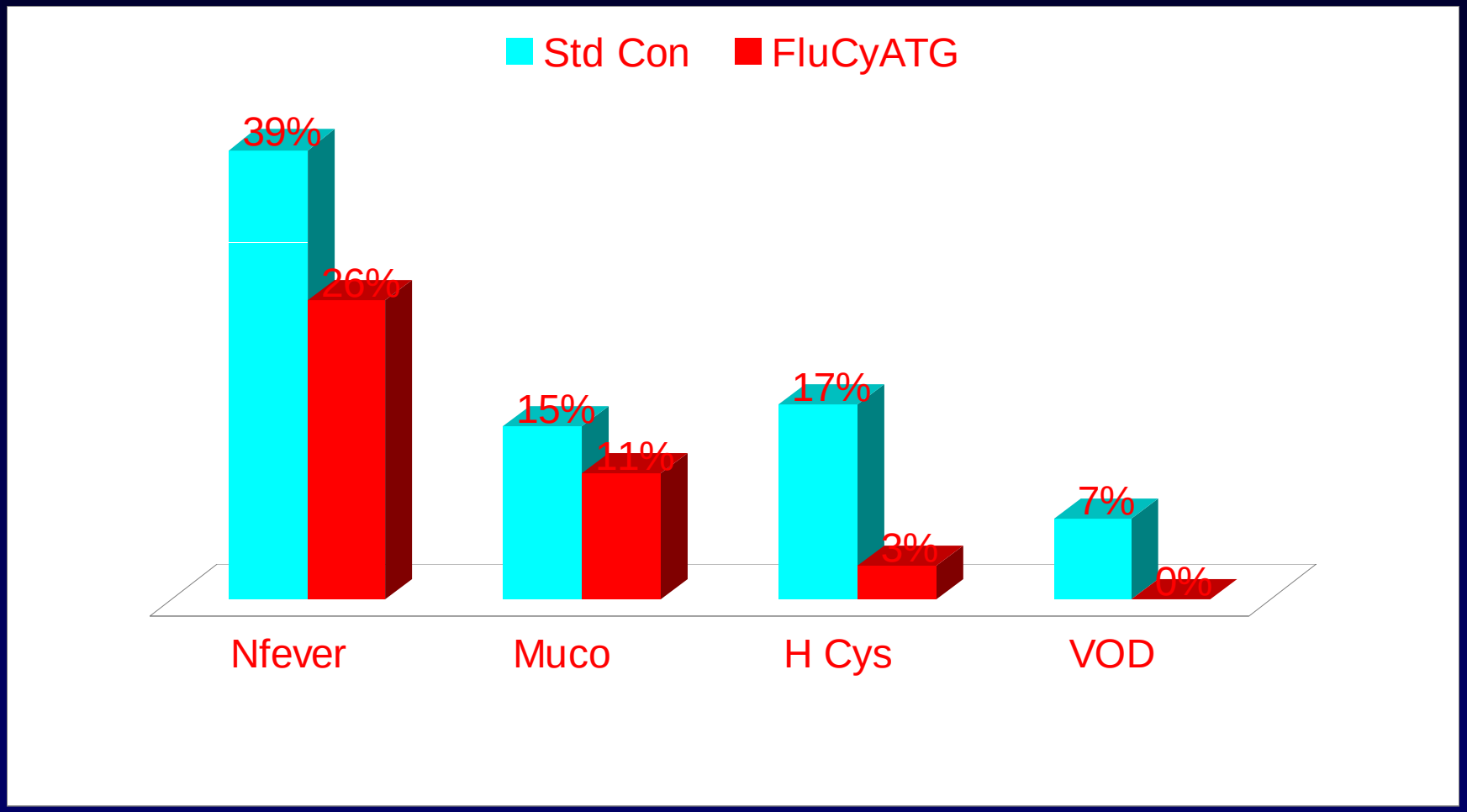
Stem Cell dose

	Min (x 10^8/kg)	Max (x 10^8/kg)	Mean (x 10^8/kg)
Std Cond	2.44	12.34	5.0
FLU/Cy/ATG	3.8	10.7	5.3

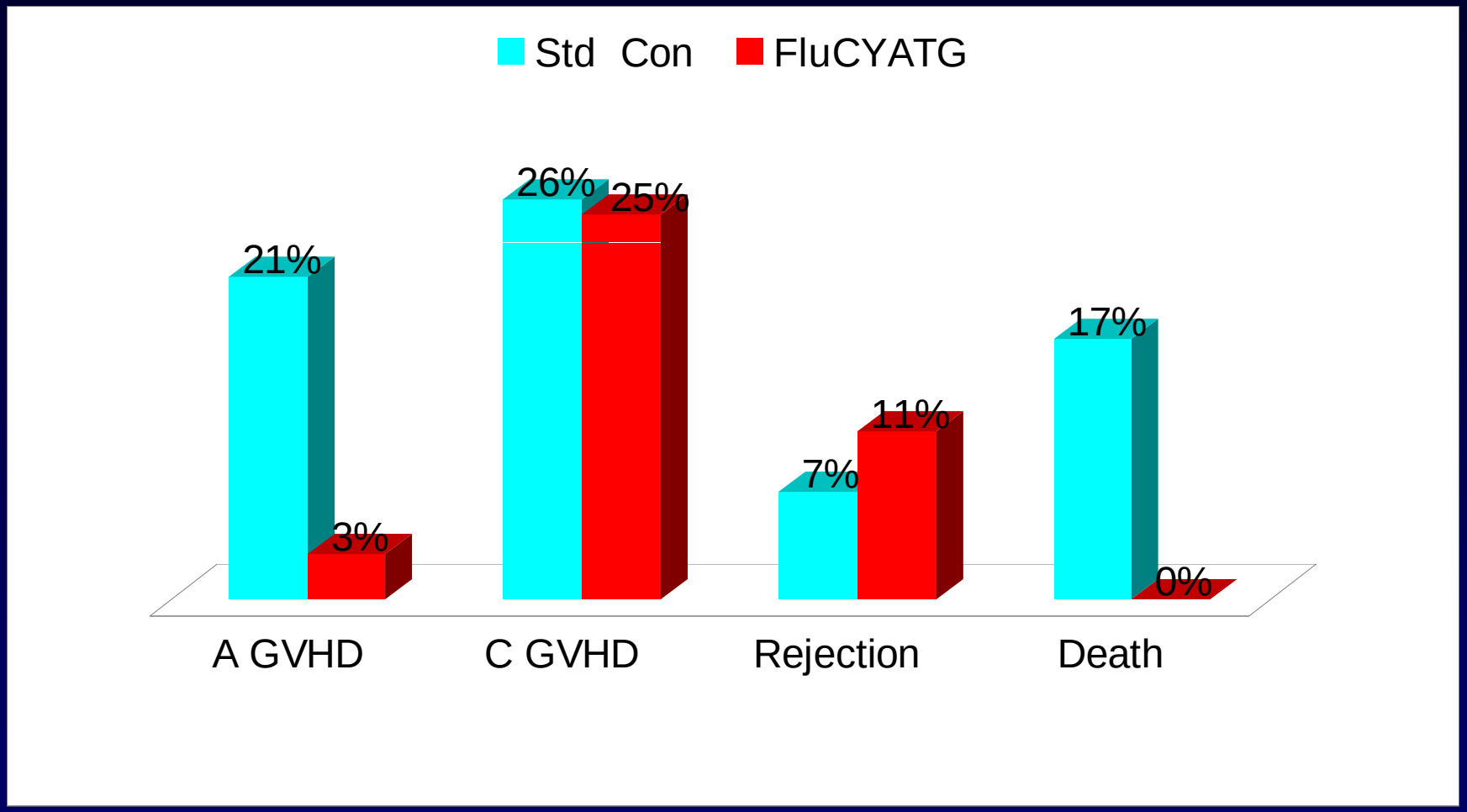
Neutrophil Engraftment

	Min Days	Max Days	Mean Days
Std Cond	7	24	12
FLU/Cy/ATG	8	19	12.4

Complications

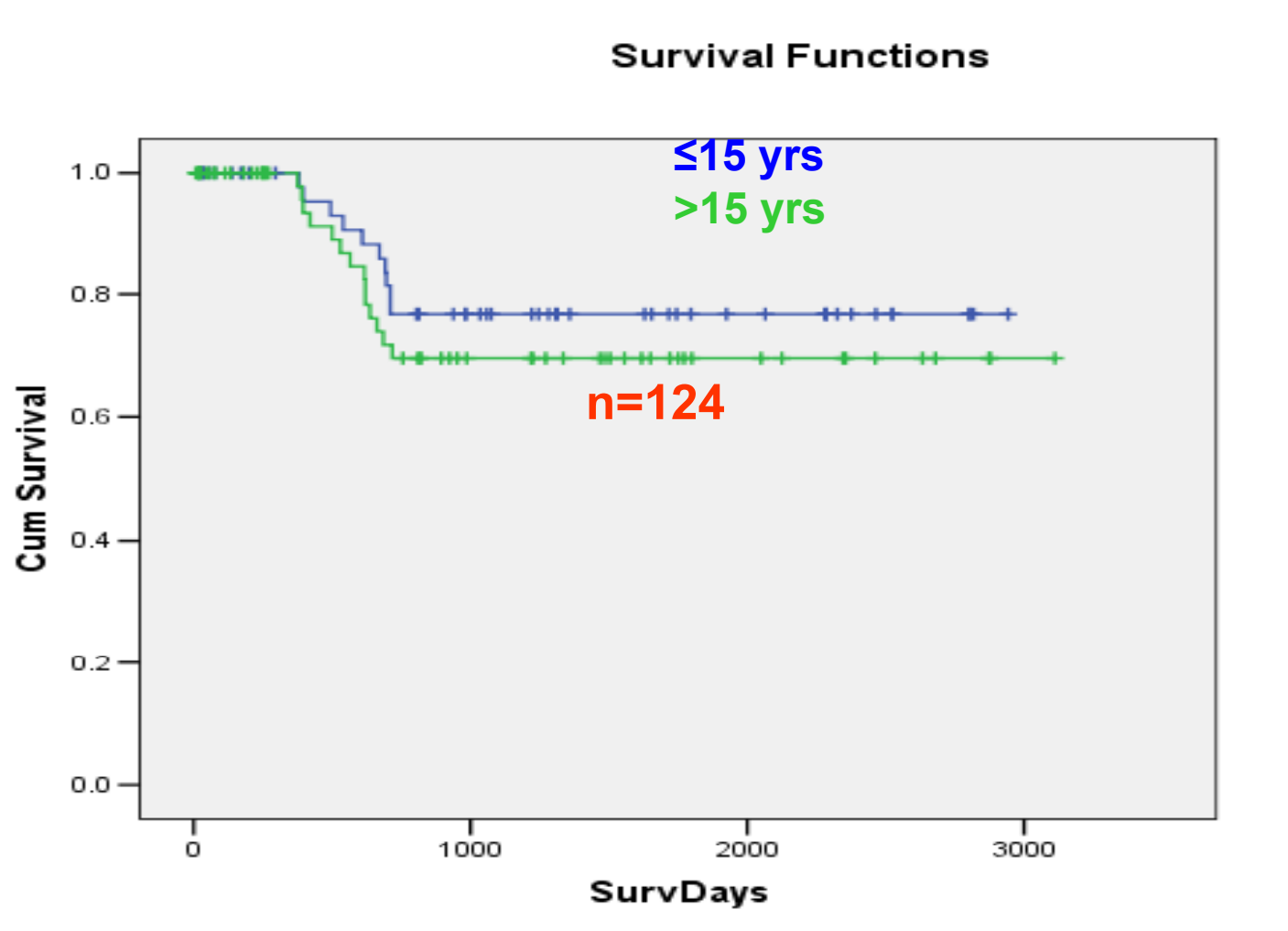


Complications



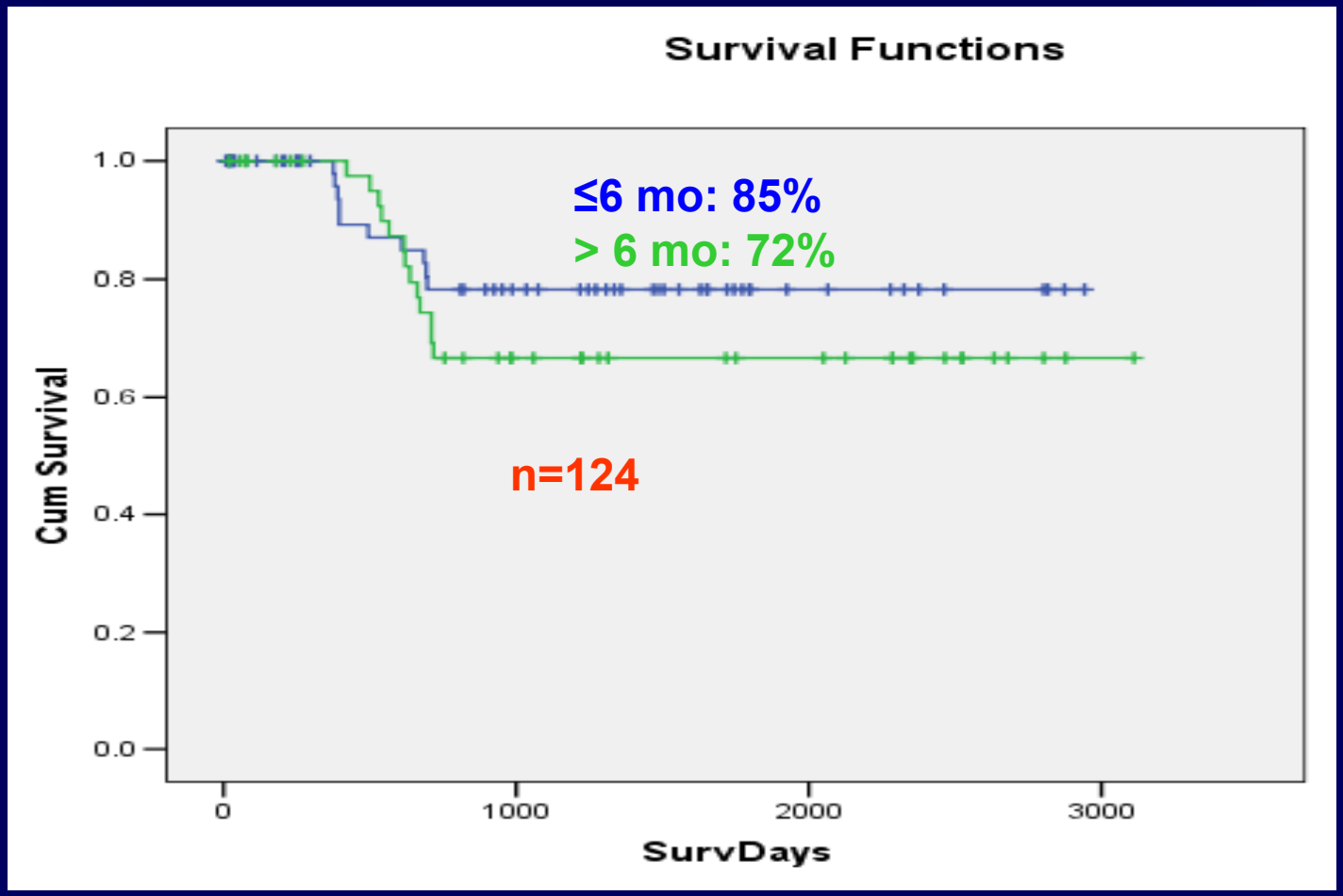
Aplastic Anaemia

Effect of Age on Survival



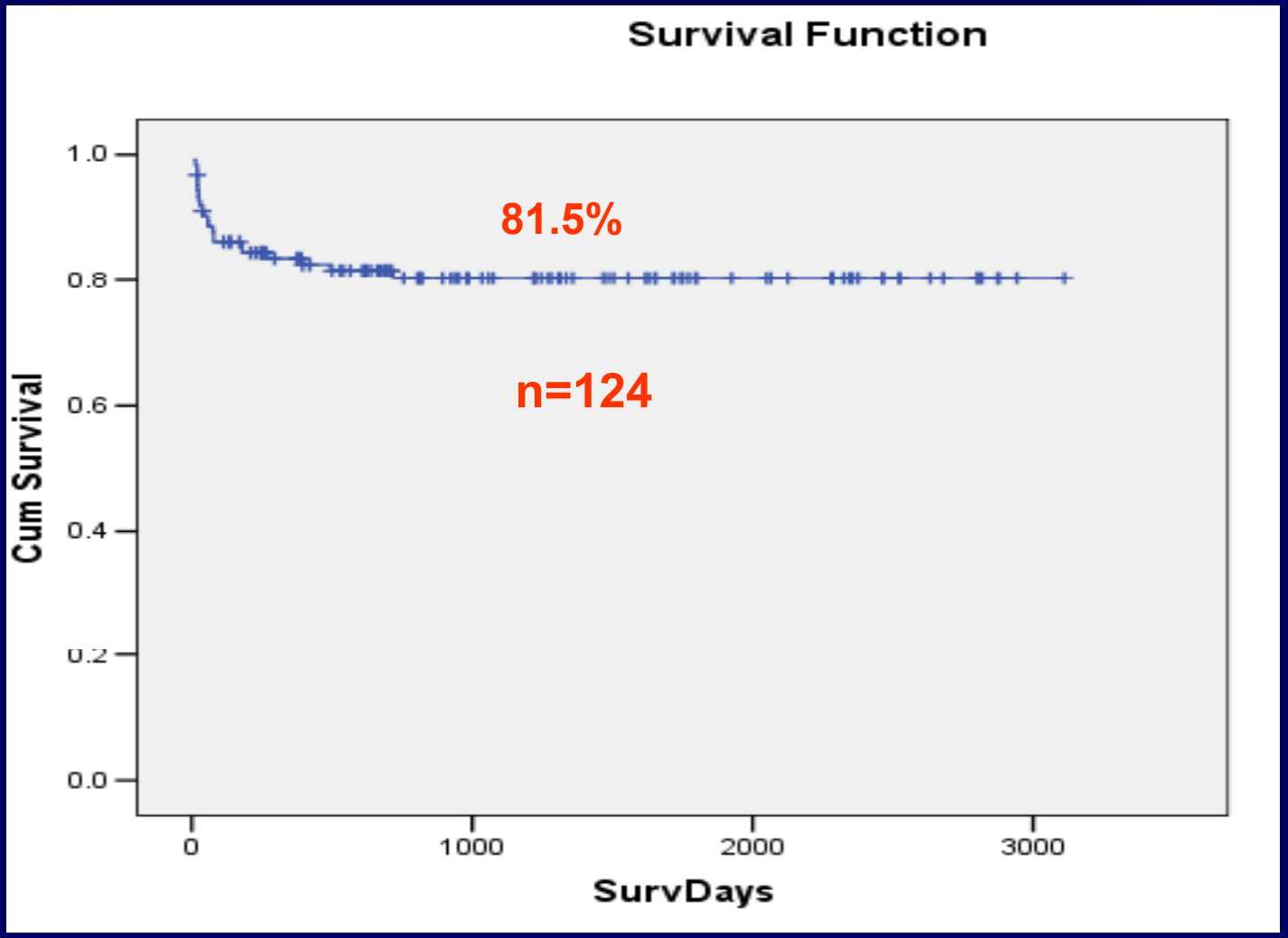
Aplastic Anaemia

Effect of disease duration on Survival



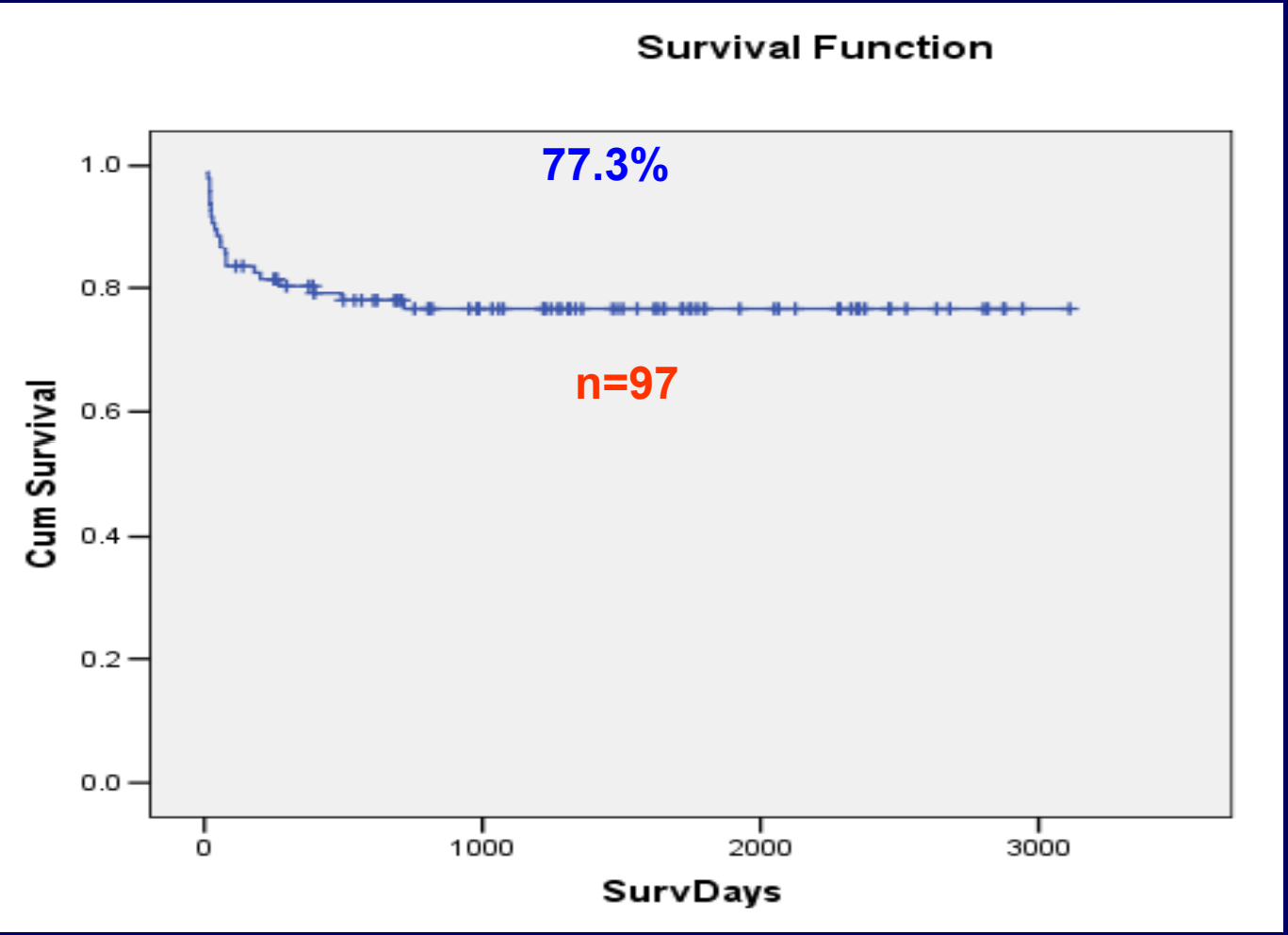
Aplastic Anaemia

Overall Survival: Mean Follow up 1144 days



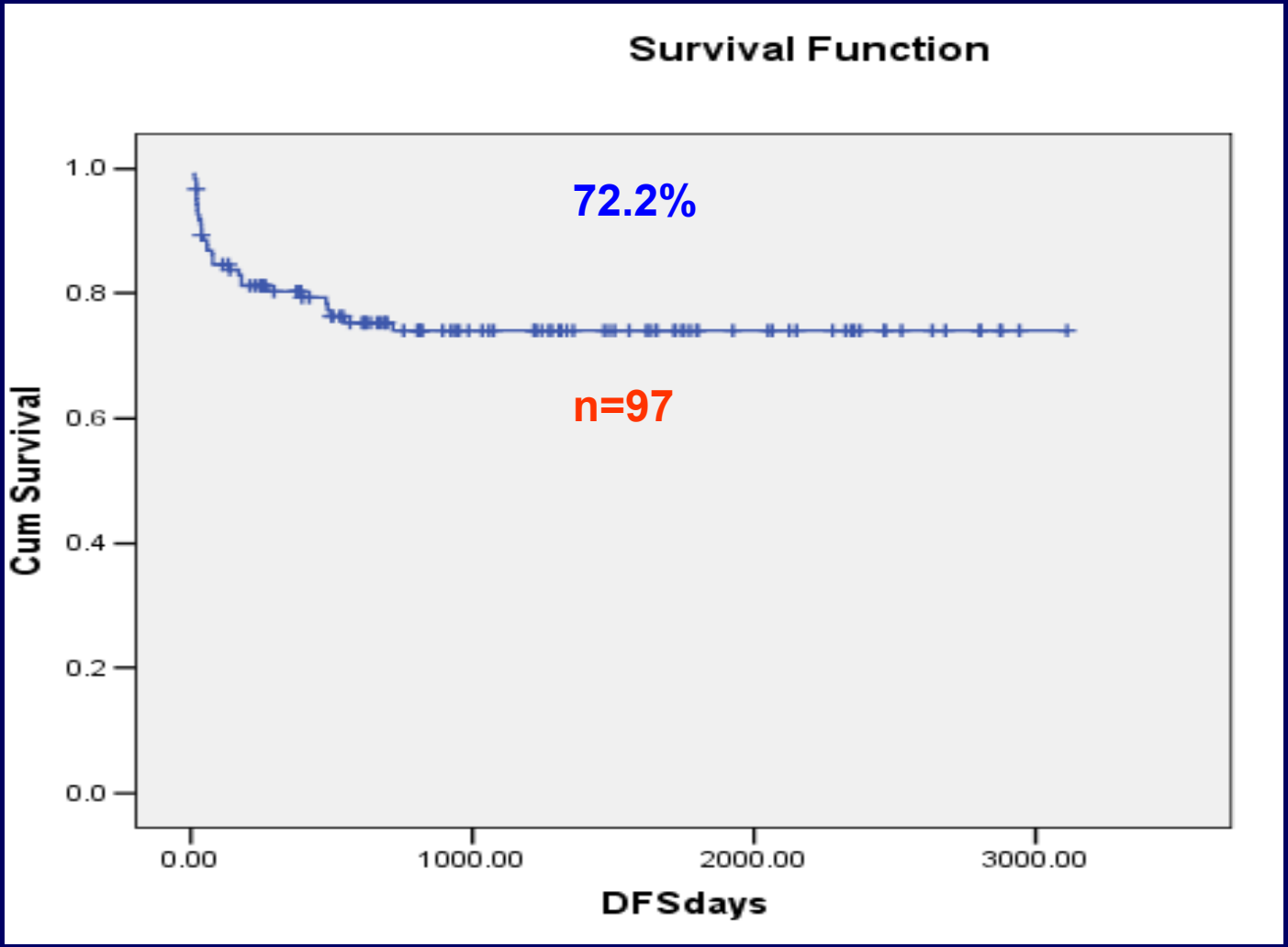
Aplastic Anaemia

OS with Standard Conditioning



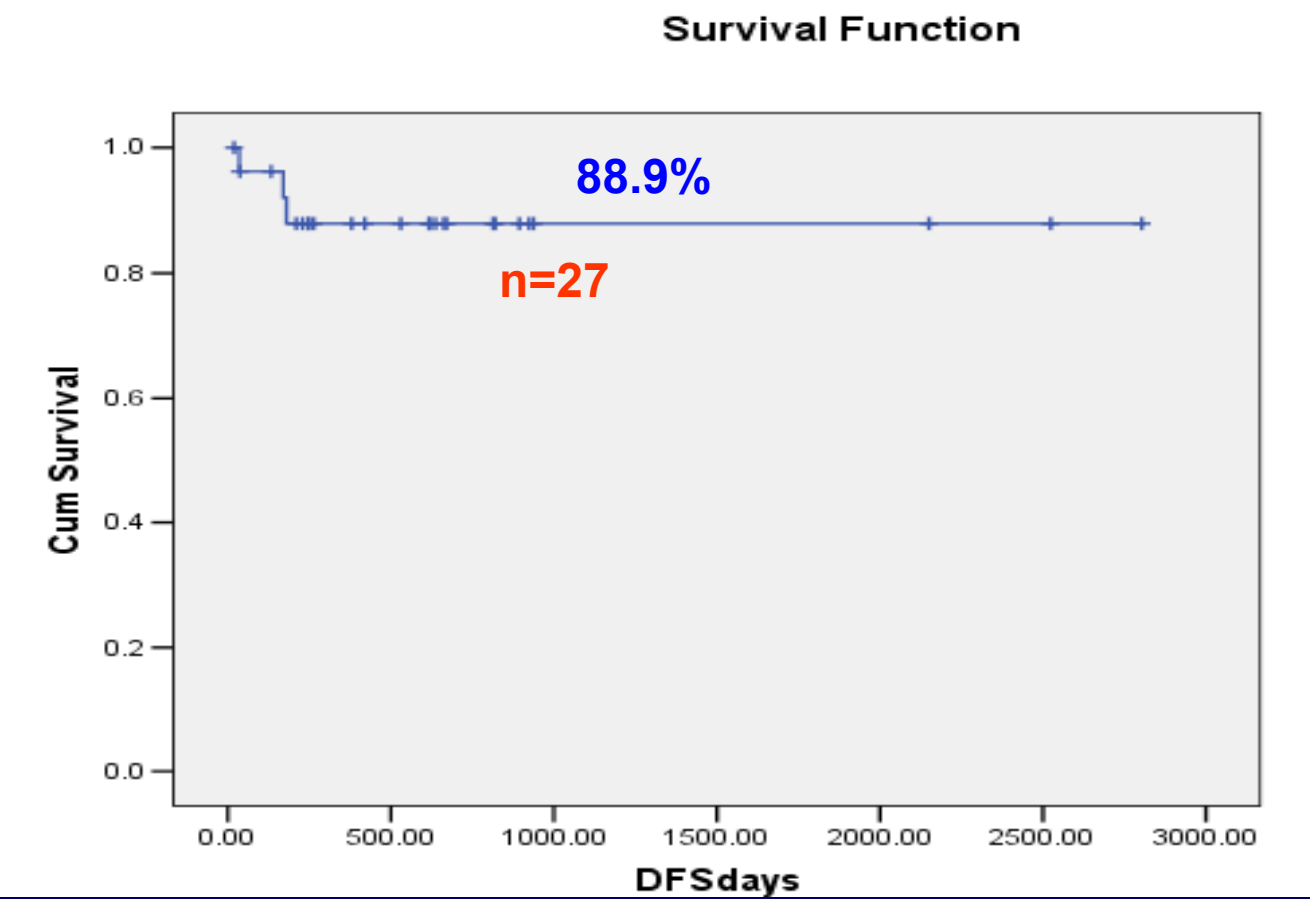
Aplastic Anaemia

DFS Standard Conditioning



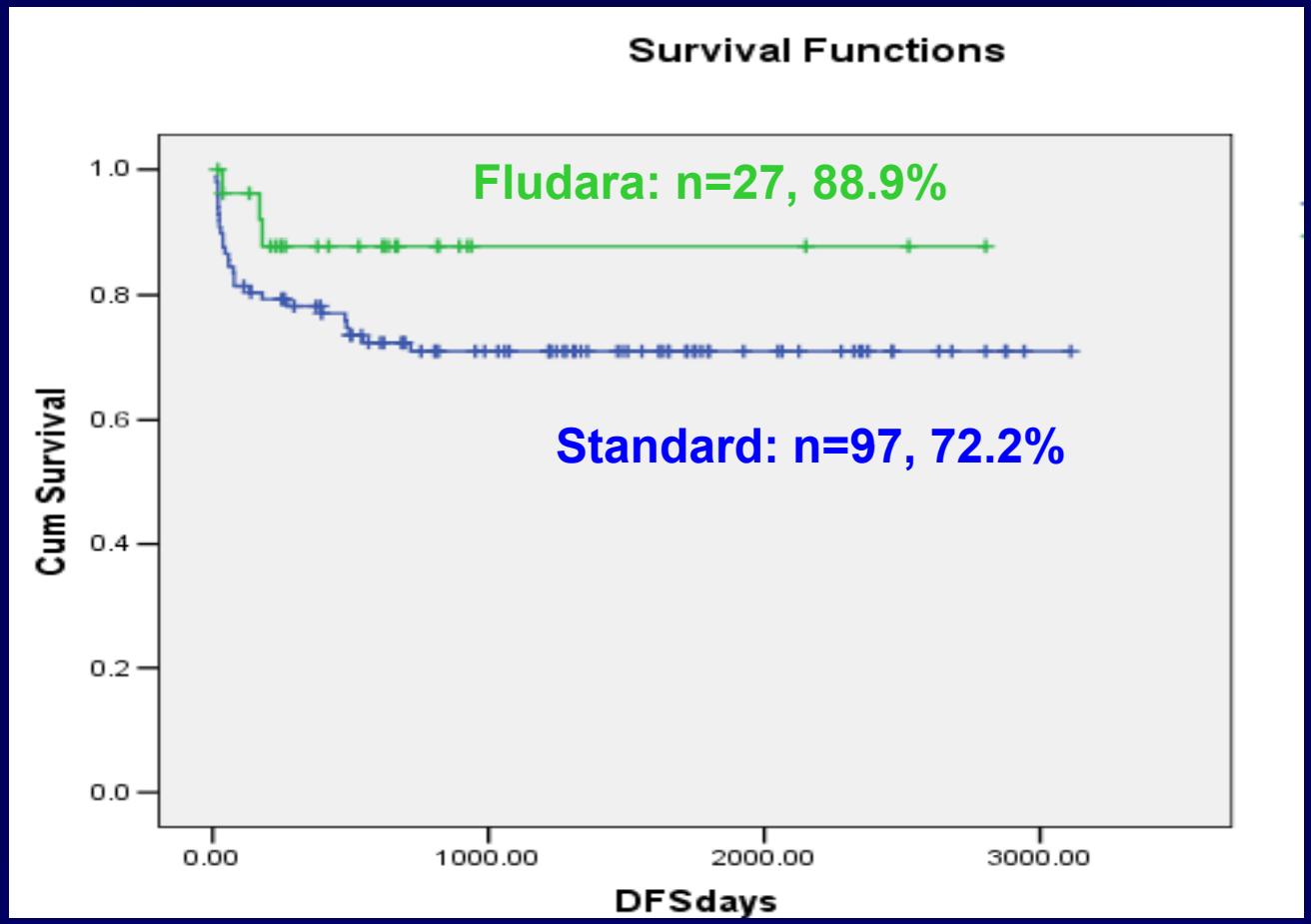
Aplastic Anaemia

DFS - Fludarabine Based Regimen



Aplastic Anaemia

DFS - Fludara vs Standard Conditioning Regimen



Conclusion

- Fludarabine based conditioning regimen is safe and is associated with superior survival than standard conditioning
- Better option for heavily transfused patients with aplastic anaemia

9 2 2010