Stem cell transplantation in Bangladesh

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DMCH

TOP STORIES

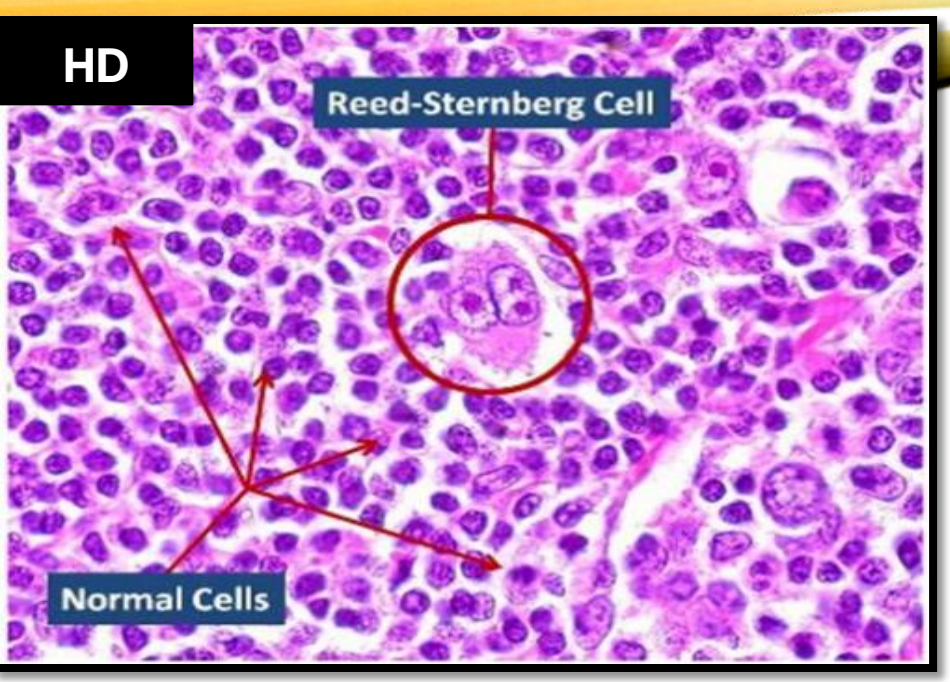
- Basics & Indication of HSCT
- Stem cell Transplant activity of Bangladesh
- Overall status of ASCT & Achievement
- Complications of Autologous stem cell transplant
- Future goal
- Conclusion

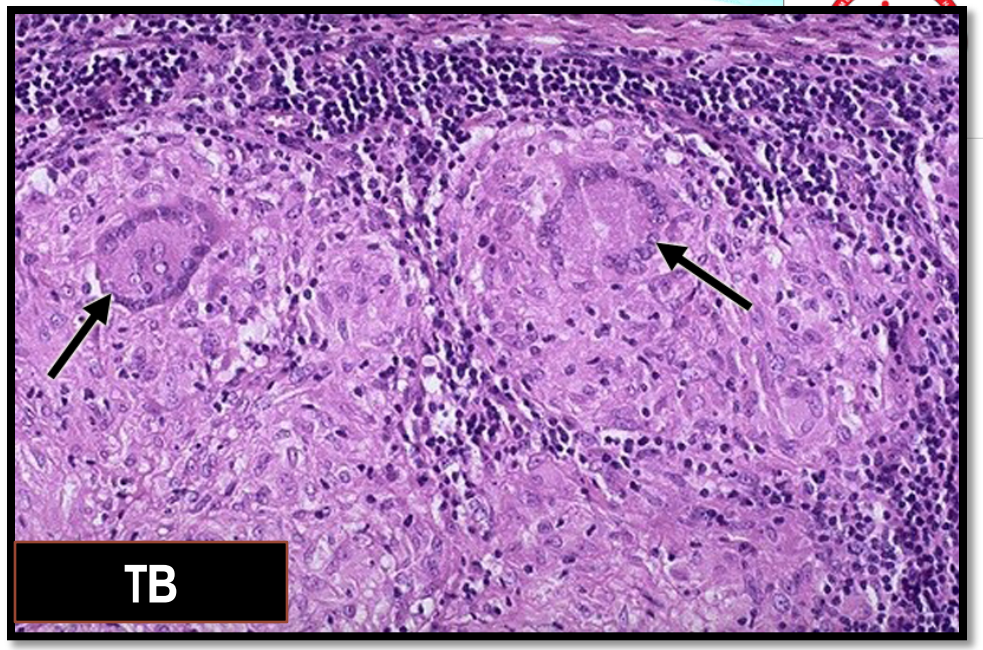
CASE HISTORY

- 18 Y boy on 2013:
  - ➢ Fever & weight loss for 3 months.
  - ➢ Cervical & inguinal LN, enlarged Spleen.

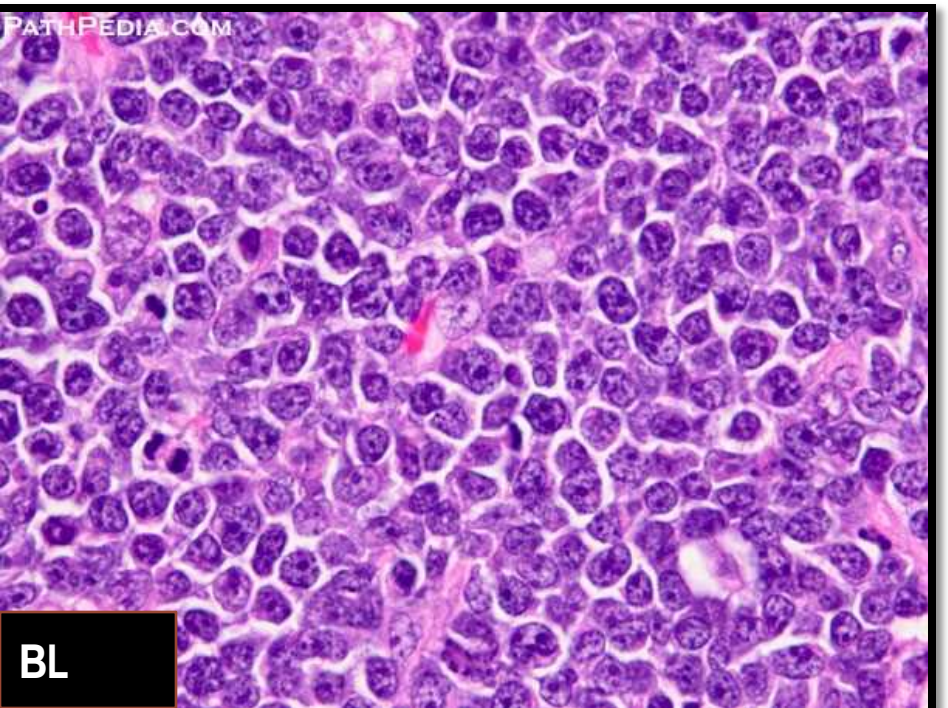
Further Workup:

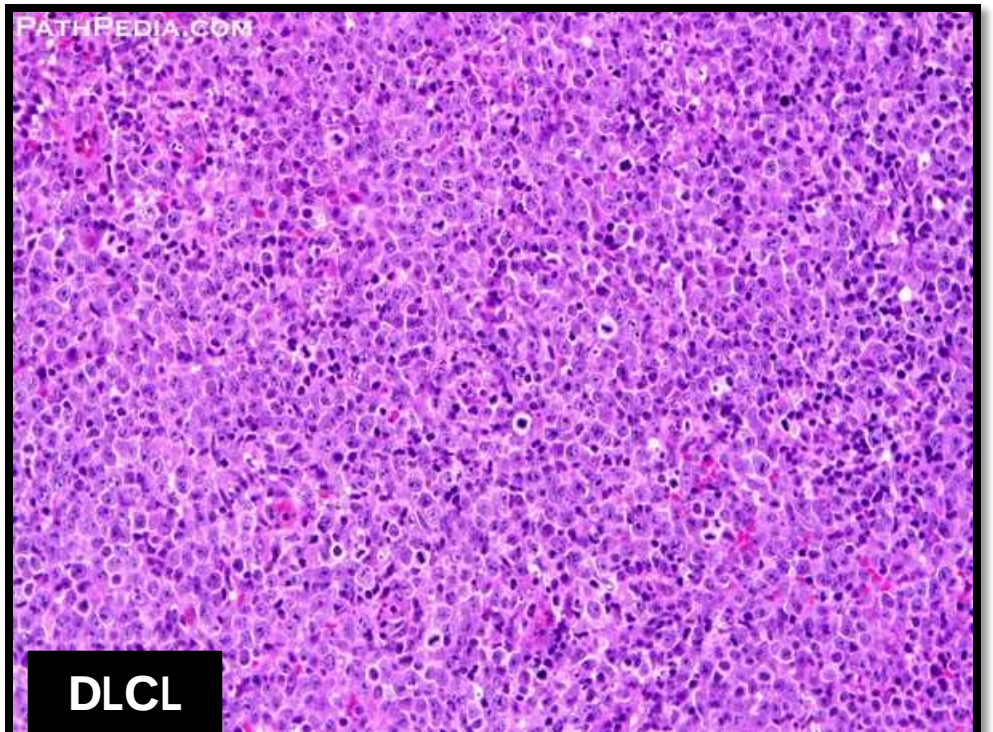
- CBC : unremarkable.
- LDH: raised.
- FNAC of LN: TB
- Biopsy: reactive hyperplasia> 2nd opinion>NHL



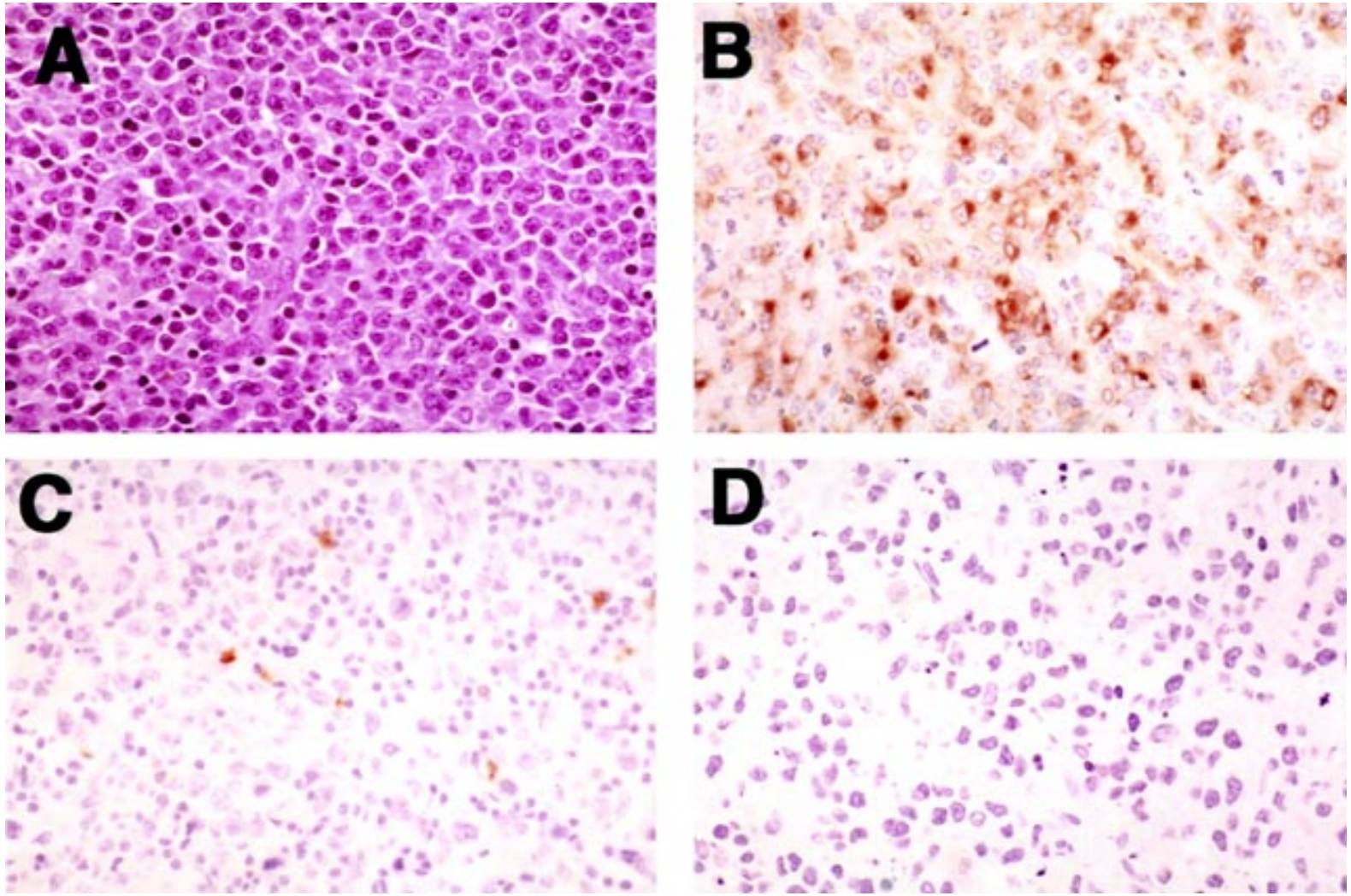


Typical Picture may not be found.





HP + EXTENDED PANEL IHC



CASE HISTORY (CONT)

- Immunohistochemistry **>** **DLBCL** CD20+, Ki 67- 75%
- Stage IVB
- Rx : CHOPx8 + IFRT>Remission for 7 months.
- Relapsed on 2014
- What could be the best approach ?

1540 THE NEW ENGLAND JOURNAL OF MEDICINE Dec. 7, 1995

AUTOLOGOUS BONE MARROW TRANSPLANTATION AS COMPARED WITH SALVAGE CHEMOTHERAPY IN RELAPSES OF CHEMOTHERAPY-SENSITIVE NON-HODGKIN'S LYMPHOMA

THIERRY PHILIP, M.D., CESARE GUGLIELMI, M.D., ANTON HAGENBEEK, M.D., RENIER SOMERS, M.D., HANS VAN DER LELIE, M.D., DOMINIQUE BRON, M.D., PIETER SONNEVELD, M.D., CHRISTIAN GISSELBRECHT, M.D., JEAN-YVES CAHN, M.D., JEAN-LUC HAROUSSEAU, M.D., BERTRAND COIFFIER, M.D., PIERRE BIRON, M.D., FRANCO MANDELLI, M.D., AND FRANCK CHAUVIN, M.D.

5 Y EFS 46% in Transplanted
Vs
12 % in chemo alone.

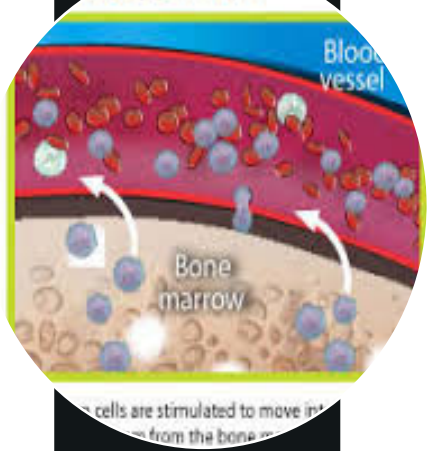
Autologous Stem cell transplant is the standard of care in relapsed chemosensitive NHL as well as rHD.

CASE HISTORY (CONT)

- Counseling
- Salvage chemo R-ICEx2
- Mobilization with GCSF
- BEAM conditioning chemo

  followed by Autologous SCT on Aug 2014.
- Till now he is in CR & good QOL.

ASCT ALLOWS TO RECEIVE VERY HIGH DOSE CHEMO



1
Mobilization by Chemo-GCSF

2
Collection

3
Process

4
Cryo -190˚C

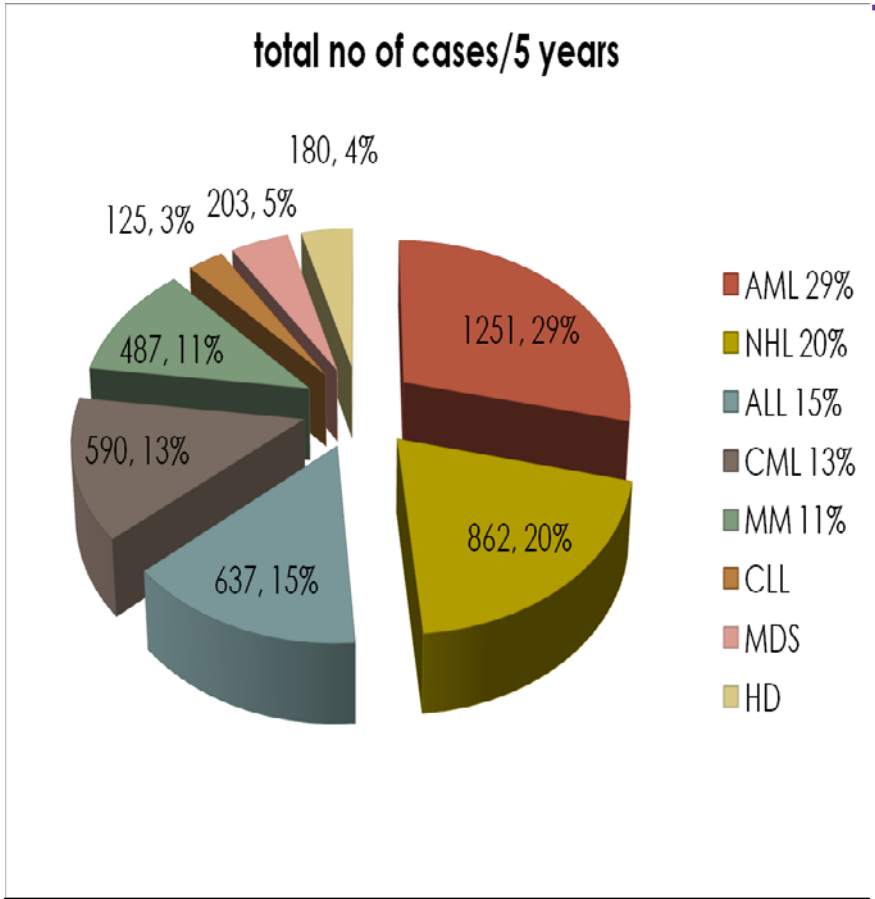
5
HDT & Re infusion

5 Core steps of ASCT

INDICATION OF STEM CELL TRANSPLANTATION

Autologous SCT:

- Relapsed chemosensitive Lymphoma
- Peripheral T cell Lymphoma
- MM in ≥ CR1
- AML with No donor
- Germ cell tumor & other solid tumor.



Hossain MS BMC Cancer. 2014 June

Allogeneic SCT:

- AML (high & Int risk) ≥ CR1
- High Risk ALL in CR
- Thalassemia major
- Aplastic anaemia, inherited BM failrue syndrome &PNH
- MDS
- SCID
- Refractory NHL

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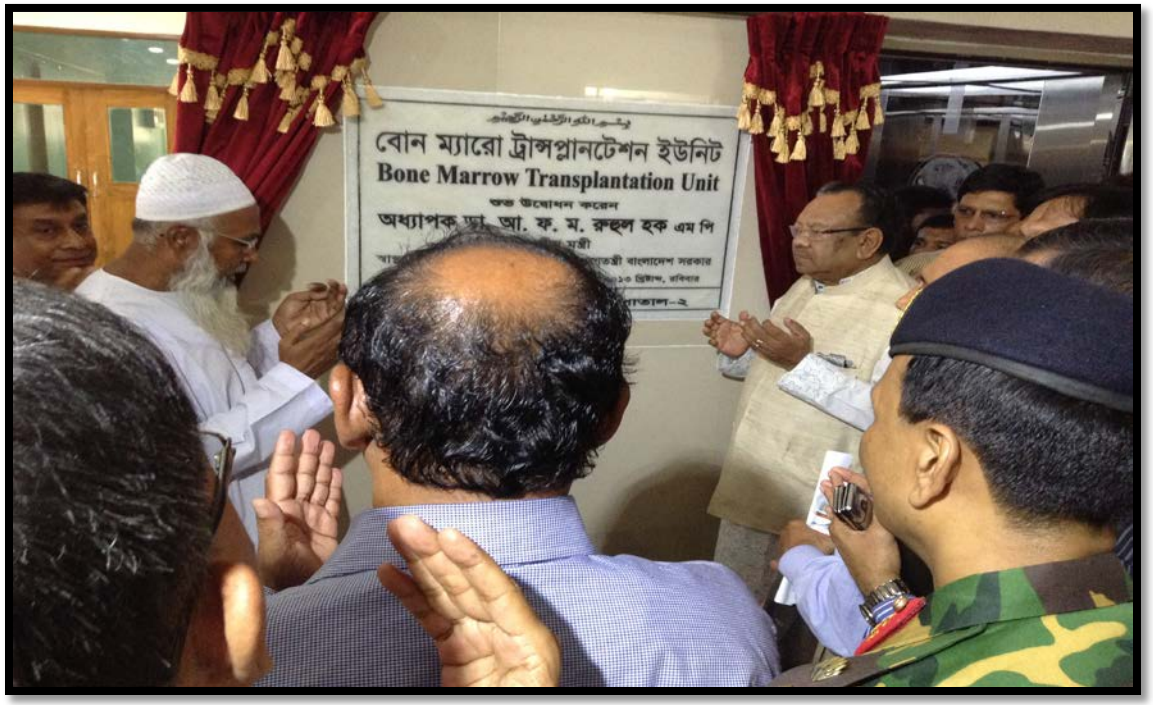
HISTORY STARTED HERE

First ever Auto HSCT in Bangladesh on 10th March 2014

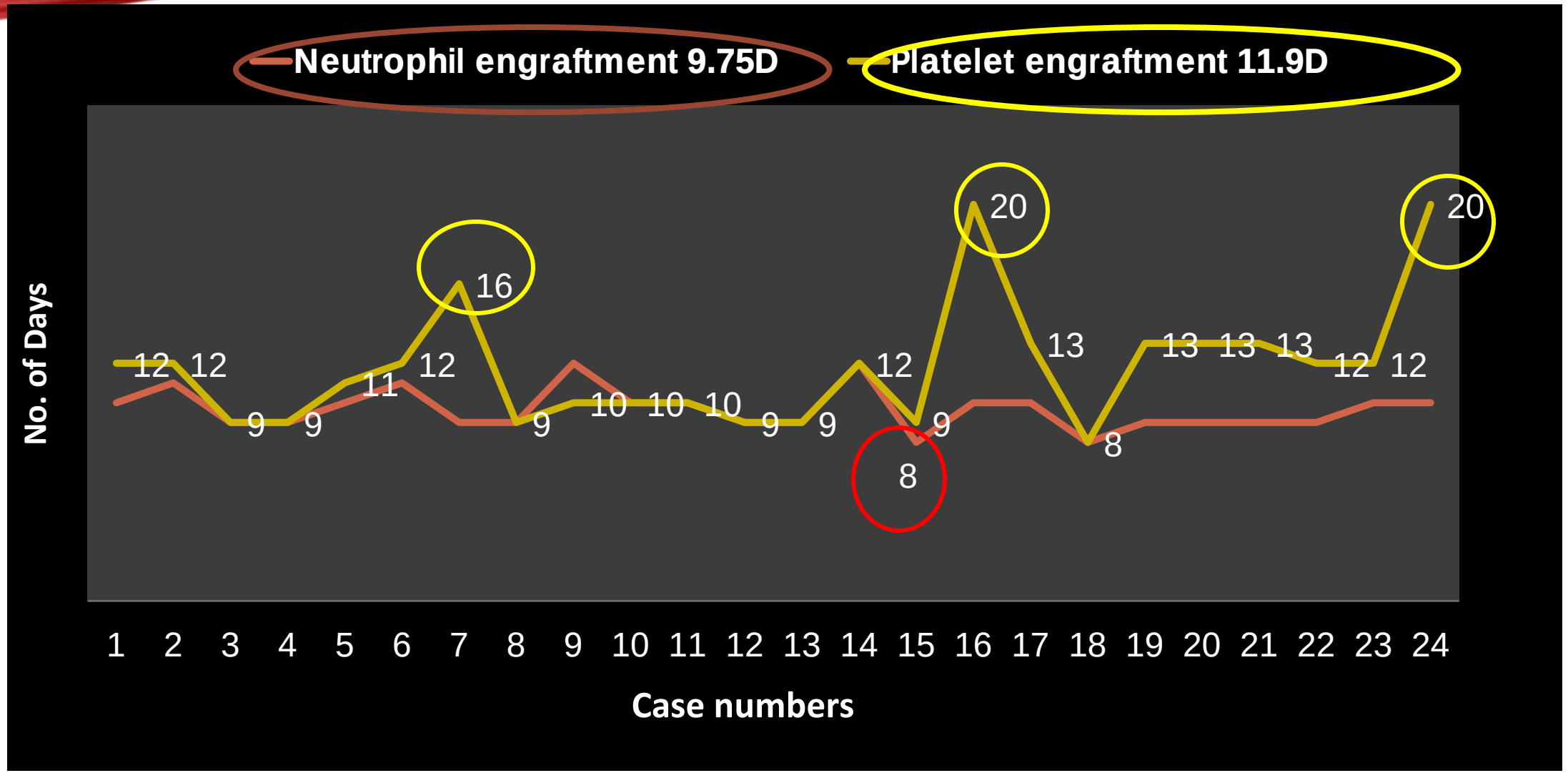


Inauguration on 2013

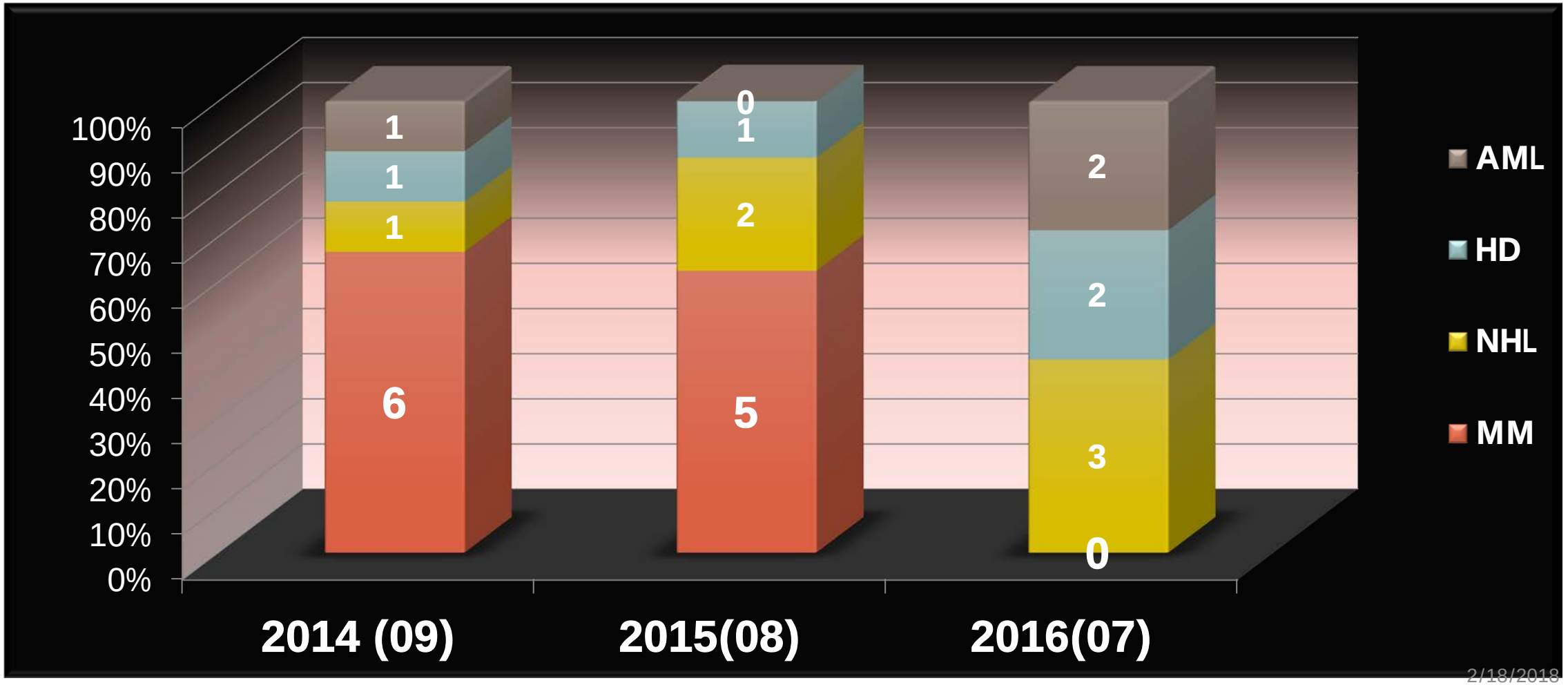
24 ASCT by BMT Team

64 Stem cell apheresis

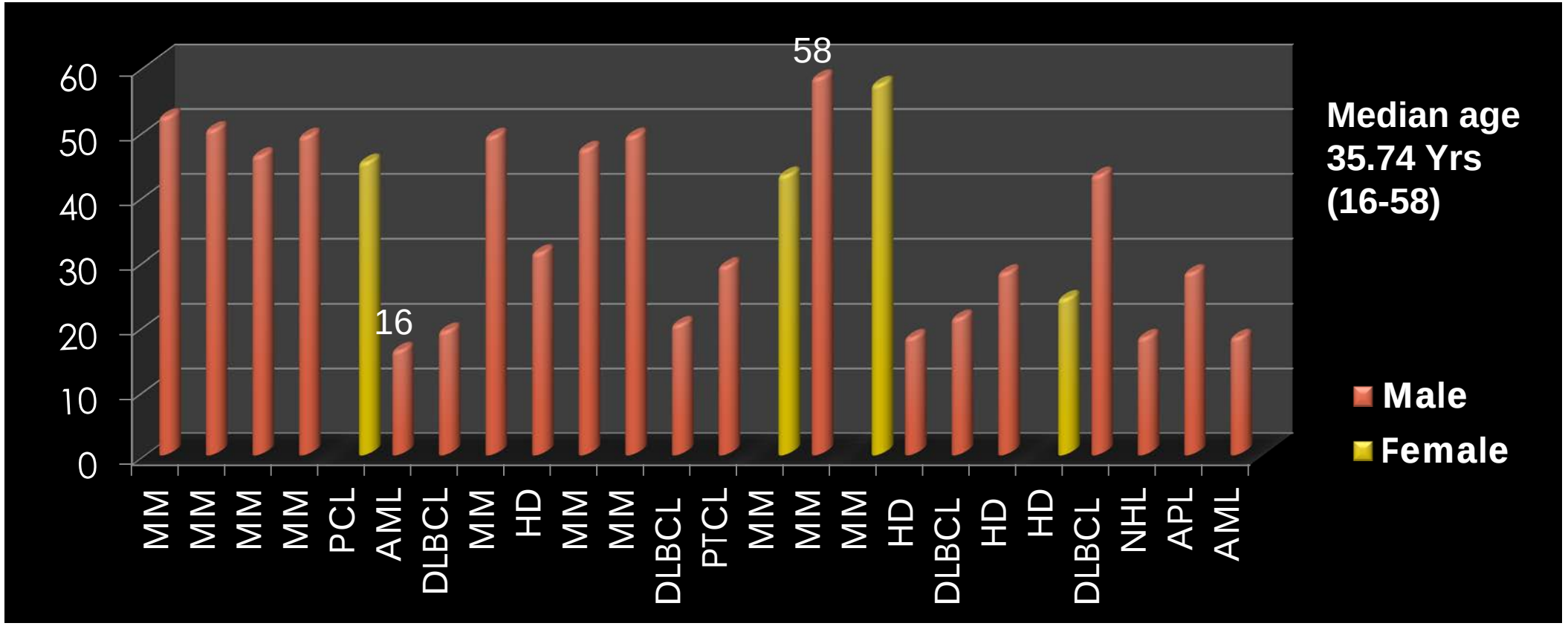
ENGRAFTMENT
ANC>500, PLT>20K



TRANSPLANT ACTIVITY AT DMCH



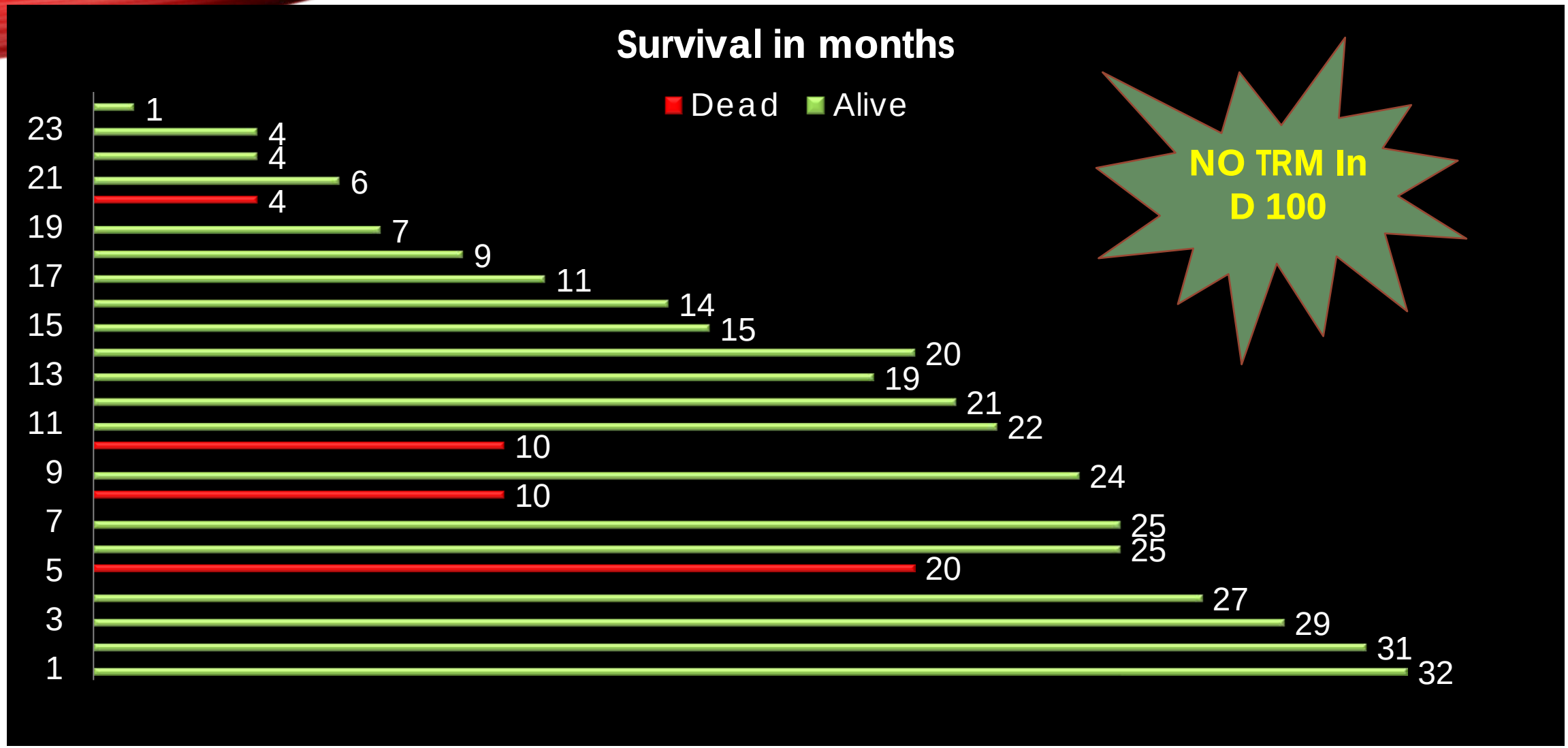
AGE AND SEX DISTRIBUTION



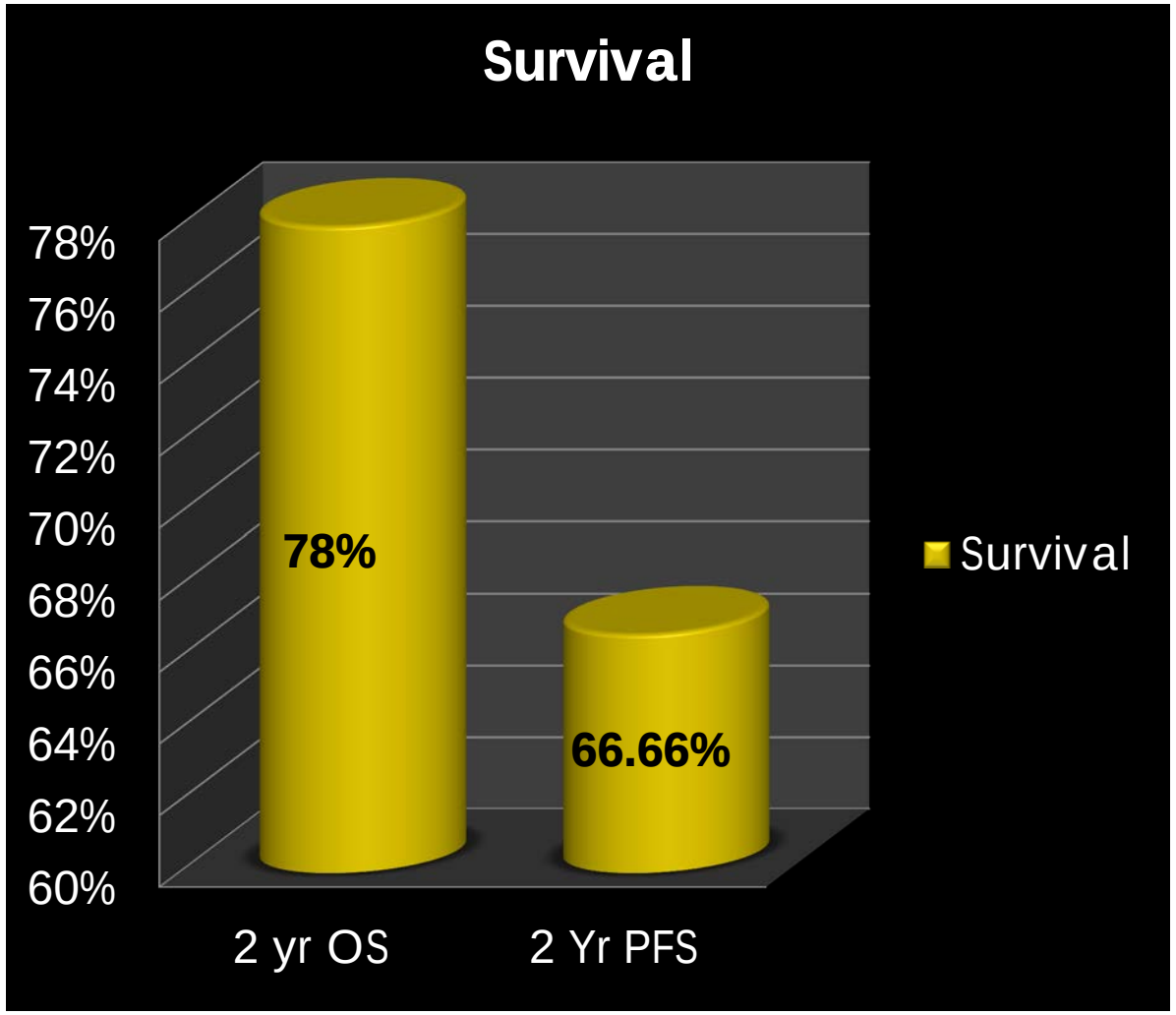
OVERALL STATUS OF TX PATIENTS

Case Dx	Status before Tx	Mobilization	Stem Cell yeild	Condi-tioning	outcome D100	Outcome >D100
MM 11	CR, VGPR	Cy-GCSF	>2x 10^6/Kg	Melphalan 200mg/m2	Alive, CR	4 relapsed, > 10 month, all survived
NHL 06	CR	RICE-GCSF ICE-GCSF		BEAM	Alive, CR	No relapse All survived CR
HD 04	CR, PR	GND-GCSF ICE-GCSF		BEAM	Alive , CR	1 replapse All CR, SD
AML 03	CR	HiDAC-GCSF		Bu-Cy	Alive , CR	Alive , CR

SURVIVAL AT A GLANCE



OUT COME AT DMCH BMT CENTER



- Median obseravation period 15 months(1-32 m).
- No TRM within 100 Days
- No relapse from Non Hodgkin Lymphoma patients.
- Cumulative incidence of relapse is 21%.
- MM relapse average >425 days.
- All death had RTI + Relapse

OVERVIEW

- Indication of transplant
- Transplant activity of Bangladesh
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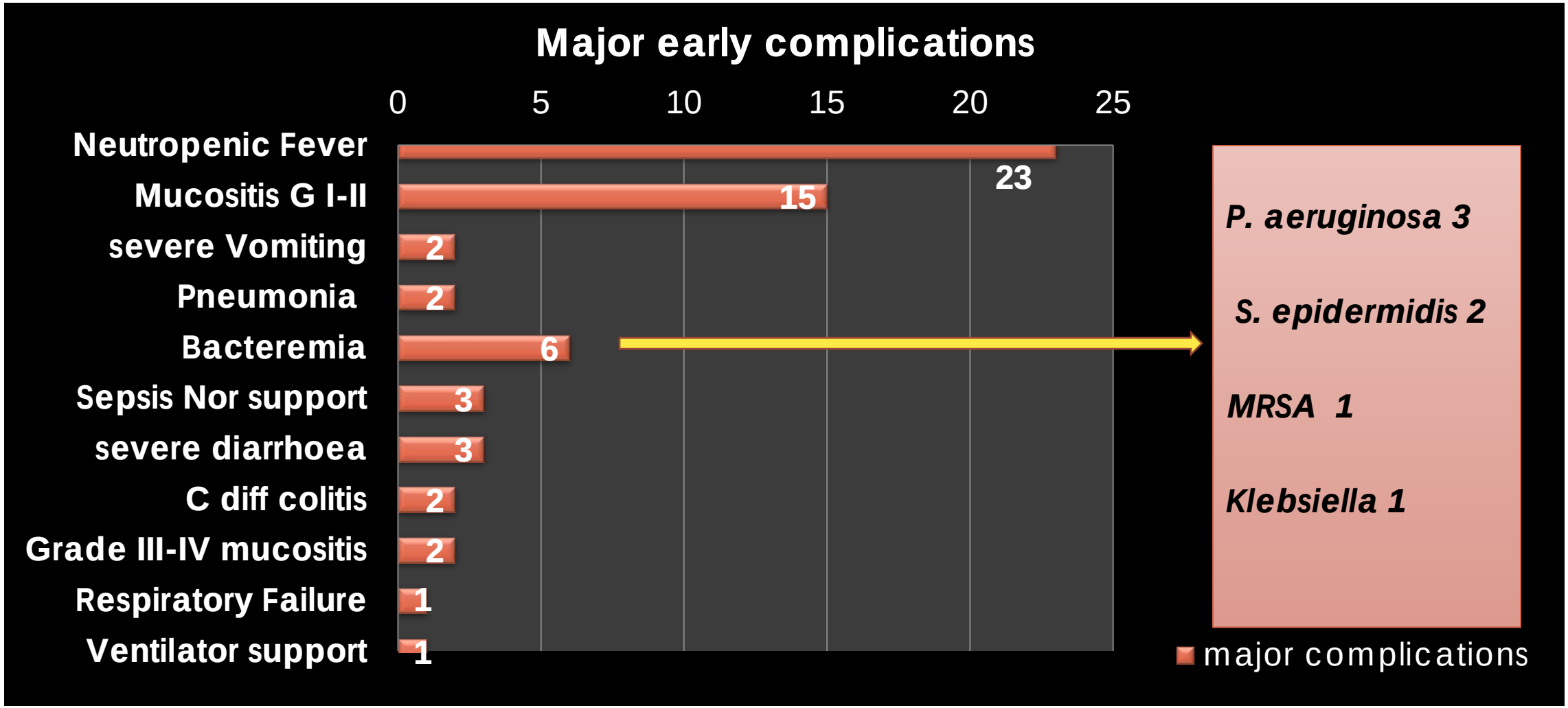
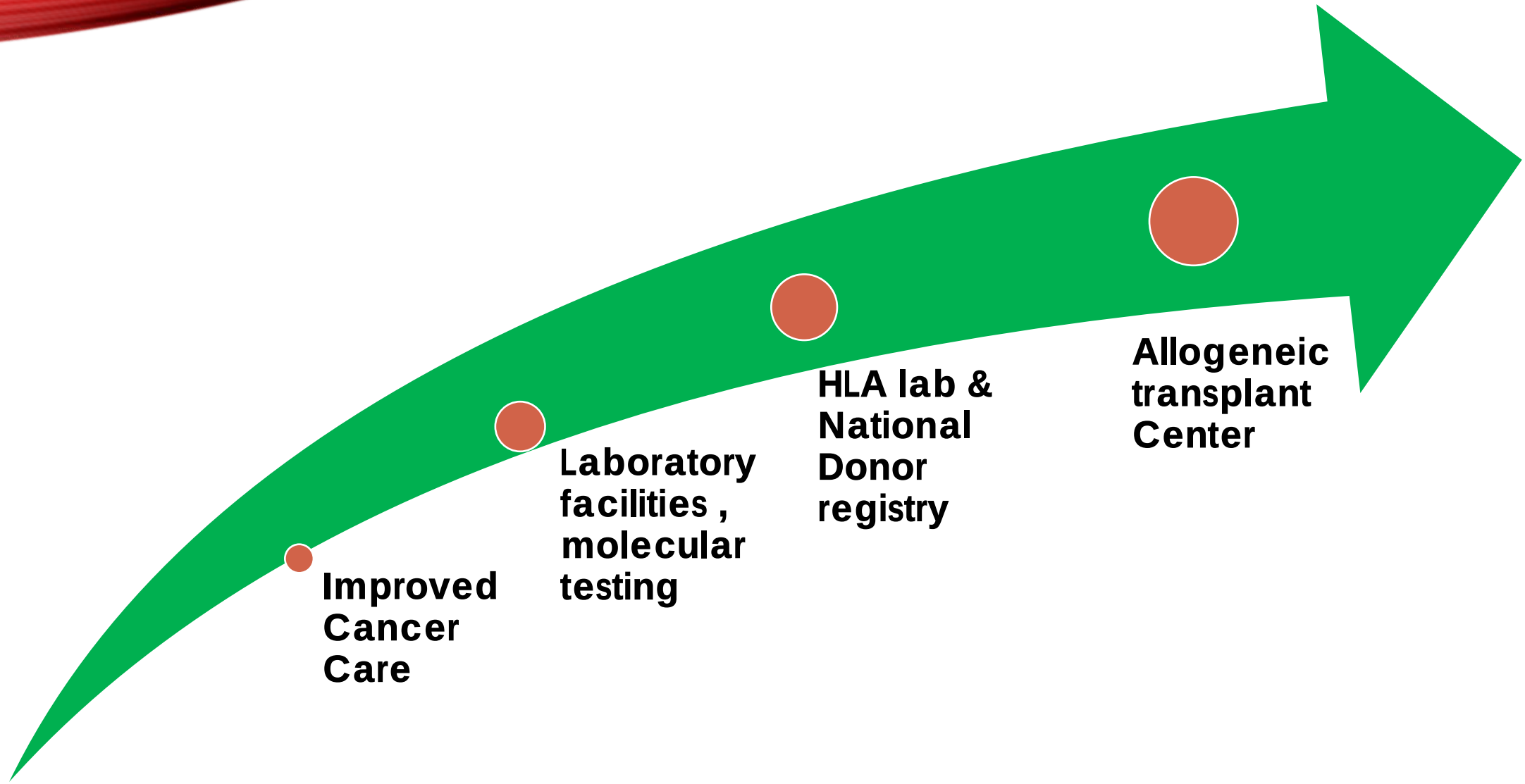
MAJOR COMPLICATIONS



GOAL & VISION


Improved Cancer Care
Laboratory facilities , molecular testing
HLA lab & National Donor registry
Allogeneic transplant Center

OVERVIEW

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TAKE HOME MESSAGES

1. **Proper diagnosis with HP and IHC and staging of Lymphoma is key to successful outcome.**

2. **Lymphoma patients should not be over treated nor undertreated. Proper referral is essential.**

3. **~30 to 40% of NHL will relapse and 10% have refractory disease in first line therapy.** *[N Engl J Med. 1993;328:1002–6.]*

4. **Autologous SCT is a curative & standard of care in relapsed & refractory Lymphoma and is a safe procedure. No 100D TRM in DMCH center.**

Thank you

FURTHER READING

1. Moskowitz CH, Bertino JR, Glassman JR, Hedrick EE, Hunte S, Coady-Lions N, et al. Ifosfamide, carboplatin and etoposide: A highly effective cyto-reduction and peripheral blood progenitor cell mobilization regimen for transplant-eligible patients with non-Hodgkins lymphoma. J Clin Oncol. 1999;17:3776–85. [PubMed]
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4. Sehn LH, Donaldson J, Chhanabhai M, et al. Introduction of combined CHOP plus rituximab therapy dramatically improved outcome of diffuse large B-cell lymphoma in British Columbia. J Clin Oncol.2005;23(22):5027-5033.
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6. Salvage Regimens With Autologous Transplantation for Relapsed Large B-Cell Lymphoma in the Rituximab Era J Clin Oncol 28:4184-4190. © 2010 by American Society of Clinical Oncology/ Guglielmi C, Gomez F, Philip T, et al: Time to relapse has prognostic value in patients with agressive lymphoma enrolled onto the Parma trial. J Clin Oncol 16:3264-3269, 1998
7. Blay J, Gomez F, Sebban C, et al: The International Prognostic Index correlates to survival in patients with aggressive lymphoma in relapse: Analysis of the PARMA trial. Parma Group. Blood 92: 3562-3568, 1998