La mobilizzazione con G-CSF e plerixafor è preferibile alla mobilizzazione con chemioterapia ai fini di autotrapianto?

….le ragioni del SI….

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CONVEGNO EDUCAZIONALE GITMO

HOT QUESTIONS IN TRASPLANTATION AND CELLULAR THERAPIES

Udine
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Aula Polifunzionale - Ospedale di Udine

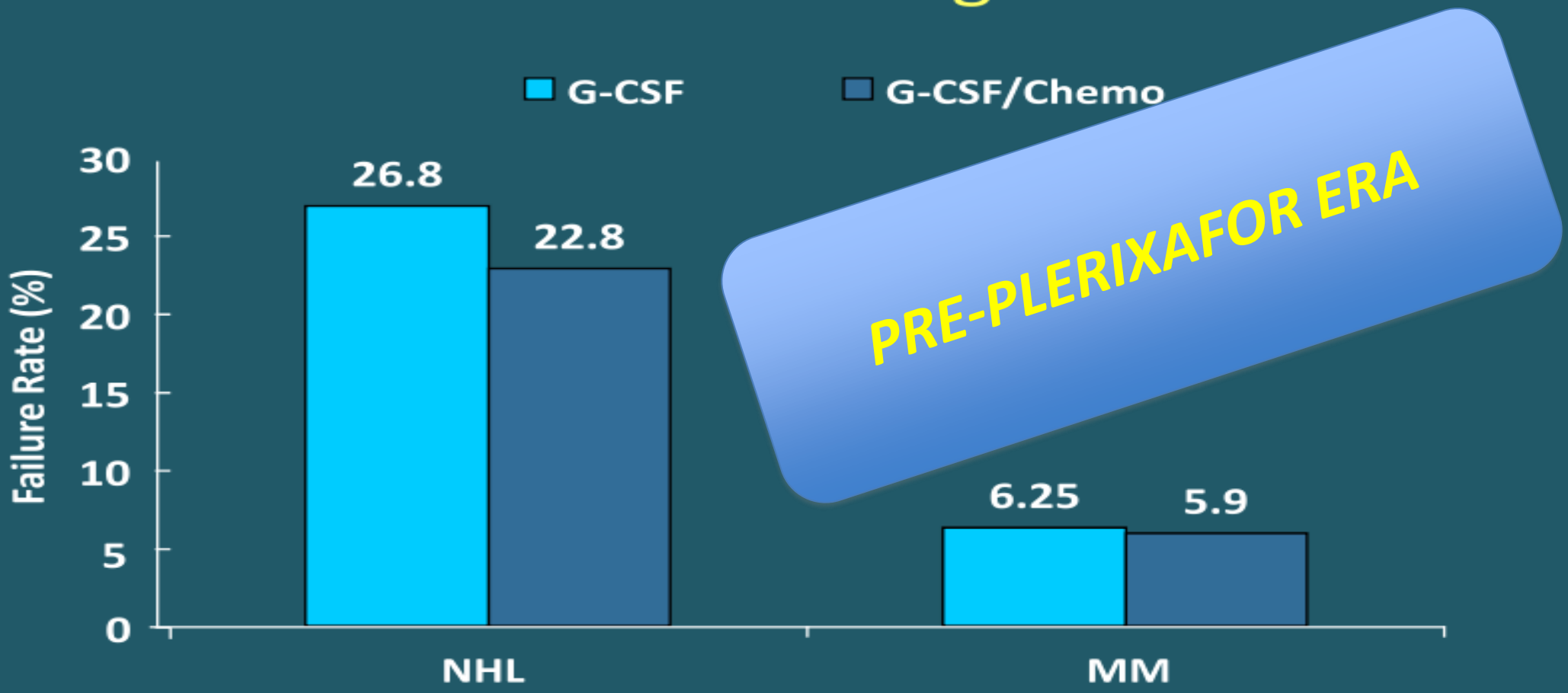
Attilio Olivieri: disclosures

- **Member of Advisory Boards:** Novartis, Jazz Pharma, Incyte
- **Speaker‘s Bureau:** Therakos: Novartis
- **Ownership of patents in partnership with companies with commercial interests in the health sector:** NOTHING TO DECLARE
- **Equity investments in companies with commercial interests in the health sector:** NOTHING TO REPORT

AGENDA

- *Poor mobilizer: come identificarlo?*
- *Plerixafor, letteratura, real life e la raccolta ideale….*
- *Farmacoeconomia e non solo….*
- *Strategie a confronto nei diversi settings*

Failure Rates of G-CSF ± Chemotherapy Mobilization Regimens



Chemo, chemotherapy; G-CSF, granulocyte colony stimulating factor; MM, multiple myeloma; NHL, non-Hodgkin's lymphoma.

Pusic et al. *Biol Blood Marrow Transplant* 2008;14:1045–1056.

How to identify the“poor mobilizer” ?

✓**parameters proposed to evaluate the extent of mobilization:**

✓absolute increase (peak) of CD34+ cells in PB

✓fold increase of CD34+ cells in PB

✓**cumulative aphaeresis yield***

✓ percent candidate patients undergoing ASCT

✓**transplant outcome:** engraftment kinetics

✓*in a single attempt or with a pre-fixed number of aphaeresis days)

Consensus GITMO su criteri di proven poor mobilizer e predicted poor mobilizer: validazione e refinement su 1317 procedure di mobilizzazione

ORIGINAL ARTICLE

Proposed definition of 'poor mobilizer' in lymphoma and multiple myeloma: an analytic hierarchy process by *ad hoc* working group Gruppo ItalianoTrapianto di Midollo Osseo

A Olivieri[1], M Marchetti[2], R Lemoli[3], C Tarella[4], A Iacone[5], F Lanza[6], A Rambaldi[7] and A Bosi[8] on behalf of the Italian Group for Stem Cell Transplantation (GITMO)

Table 3 Final definitions of proven and predicted poor mobilizer

A patient with MM or lymphoma candidate to ASCT is a:	
Proven poor mobilizer	If he/she received adequate mobilization (G-CSF dose ⩾ 10 μg/kg if used alone or ⩾ 5 μg/kg after chemo) and he/she shows: peak $CD34^+$ circulating cell count < 20/μL on days 4–6 after the start of mobilization with G-CSF alone or up to 20 days after chemotherapy and G-CSF OR in the case of proven poor mobilization, that is: $< 2.0 \times 10^6$ harvested $CD34^+$ cells per kg (that is, minimum safe dose for each planned ASCT) by ⩽ 3 aphereses
Predicted poor mobilizer	If he/she holds at least one major criterion or at least two minor criteria. Major criteria: Failed previous mobilization attempt, not otherwise specified. Previous extensive radiotherapy to marrow bearing tissue. Full courses of previous therapy, including melphalan, fludarabine or other therapies potentially affecting stem cell mobilization. Minor criteria: Advanced phase disease, that is, at least two previous cytotoxic lines Refractory disease Extensive BM involvement at mobilization BM cellularity < 30% at mobilization Age > 65 years

Bone Marrow Transplantation
https://doi.org/10.1038/s41409-017-0051-y

ARTICLE

Predicting failure of hematopoietic stem cell mobilization before it starts: the predicted poor mobilizer (pPM) score

Jacopo Olivieri[1,2] · Immacolata Attolico[3] · Roberta Nuccorini[3] · Sara Pasquina Pascale[3] · Martina Chiarucci[1] · Monica Poiani[1] · Paolo Corradini[4] · Lucia Farina[4] · Gianluca Gaidano[5] · Luca Nassi[5] · Simona Sica[6] · Nicola Piccirillo[6] · Pietro Enrico Pioltelli[7] · Massimo Martino[8] · Tiziana Moscato[8] · Massimo Pini[9] · Francesco Zallio[9] · Fabio Ciceri[10] · Musto[12] · Saveria Capria[13] · Francesco Merli[14] · anza[16] · Giorgina Specchia[17] · Domenico Pastore[17] · a Di Nardo[19] · Paolo Perseghin[7] · Attilio Olivieri[1]

End points:

1-validate GITMO criteria for pPM;

2-improve their predictive ability by building a clinical tool to identify PM ***before starting the mobilization attempt***!

Mobilization outcome in 1318 pts (600 MM; 164HL;554 NHL)

OUTCOME - COLLECTION	
TOTAL HARVEST (CD34 x 10^6/kg) <2 x 10^6/kg 2 - 5 x 10^6/kg >5 x 10^6/kg	Median 8.9 x 10^6/kg (range 0 – 63.5) 144 (10.9%) 204 (15.5%) 970 (73.6%)
MOBILIZATION FAILURE	180 pts (13.7%)
DETERMINANTS OF MOBILIZATION FAILURE	163 / 180 due to LOW CD34 PEAK COUNT (91%) 144 / 180 due to INSUFFICIENT HARVEST (80%) 127 / 180 due to BOTH CRITERIA (71%)
APHERESES CD34 PEAK COUNT	Median 1 aph. (range 1 – 6) Median 85 CD34/mcl (range 0 – 1942)

Olivieri J. et al BMT 2017

Independent predictive factors for mobilization failure identified by backward variable selection with multiple logistic regression

Predictive factor	β	Odds ratio (95% CI)	Probability (Wald test)
Age class (46-60 years = 1; > 60 years = 2) BMT 2011	0.3796	1.46 (1.14 - 1.88)	0.003
Diagnosis = NHL	0.5535	1.74 (1.16 - 2.6)	0.007
Disease infiltration ≥ 30% at the pre-mobilization BMB BMT 2011	1.269	3.56 (1.51 - 8.35)	0.004
Number of full chemotherapy courses BMT 2011	0.5888	1.8 (1.43 - 2.27)	<0.001
At least one previous treatment at risk BMT 2011	0.7739	2.17 (1.28 - 3.67)	0.004
Pre-mobilization Hb value class (<80 g/l = 1; 80 – 130 g/l = 2)	1.1165	3.05 (1.72 - 5.42)	<0.001
Pre-mobilization WBC < 5 x 10^9/L	0.7185	2.05 (1.41 - 2.99)	<0.001
Pre mobilization Plt < 170 x 10^9/L	0.5869	1.8 (1.23 - 2.62)	0.002
Priming with G-CSF alone	2.2513	9.5 (4.75 - 19)	<0.001
Upfront Plerixafor not planned	2.7292	15.32 (5.09 - 46.16)	<0.001
Previous mobilization failure BMT 2011	1.9059	6.73 (3.67 - 12.34)	<0.001

Plerixafor: phase III 3101 and 3102 studies

MM or NHL patients failing collect. ≥0.8×106 CD34+kg after 2 aphereses or ≥2×106 CD34+/kg after 4 aphereses ; after >7 days of rest considered eligible for randomization

Remobilization rescue protocol

Day	1	2	3	4	5	6	7	8
G-CSF (10 µg/kg)	●	●	●	●	●	●	●	●
Plerixafor (0.24 mg/kg) or Placebo				●	●	●	●	
Apheresis					●	●	●	●

Targets:

≥2 × 106 CD34+/kg in ≤4 aphereses and ≥5 ×106 CD34+/kg in ≤4 aphereses (NHL 3101 study)

≥6 ×106 CD34+/kg in ≤2 aphereses and ≥6 ×106 CD34+/kg in ≤4 aphereses (MM 3102 study),

DiPersio JF, Plerixafor and G-CSF versus placebo and GCSF to mobilize HSC for AutoHSCT in patients with multiple myeloma. Blood. 2009

DiPersio JF Phase III prospective randomized double-blind placebo-controlled trial of plerixafor plus granulocyte colony-stimulating factor compared with placebo plus G-CSF for mobilization in non-Hodgkin's lymphoma. JCO 2009

Additional plerixafor to granulocyte colony-stimulating factors for haematopoietic stem cell mobilisation for autologous transplantation in people with malignant lymphoma or multiple myeloma (Review)

Cochrane Library

Cochrane Database of Systematic Reviews

Hartmann T, Hübel K, Monsef I, Engert A, Skoetz N

- meta-analysis of AE did not show a statistically significant difference between the plerixafor and placebo group
- Regarding the primary endpoint of successful stem cell collection, significant advantage for those participants randomised to plerixafor
- In AMD3100-3102 MM, 95.9% of participants in the plerixafor arm and 88.3% in the placebo arm underwent transplantation.
- In AMD3100-3101 NHL, 90% of participants in the plerixafor group but only 55.4% in the control group underwent transplantation.

Safety and Effectiveness of Plerixafor for Peripheral Blood Stem Cell Mobilization in Autologous Stem Cell Transplantation: Results of a Post-Marketing Surveillance Study

Nobuhiro Tsukada[1] · Momoko Nishikori[2] · Hiroaki Goto[3] · Rie Kanamori[4] · Satoshi Nishina[5] · Takashi Seto[5] · Shinsuke Iida[6]

Drugs - Real World Outcomes (2022)

	Safety analysis set
Total	764 (100.0)
Age, years, median (min; max)	61.0 (1; 76) (*n* = 764)
Age category, years	
<15	18 (2.4)
15 to <65	522 (68.3)
≥65	224 (29.3)
Sex	
Male	417 (54.6)
Female	347 (45.4)
Body weight, kg, mean ± SD	58.2 ± 13.5 (*n* = 764)
Diagnosis	
MM	331 (43.3)
ML	360 (47.1)
NHL	344 (45.0)
HL	16 (2.1)
Other[a]	73 (9.6)

Number of patients with AEs	138 (18.1)
Number of patients with serious AEs	34 (4.5)
Number of patients with ADRs	93 (12.2)
Number of patients with serious ADRs	16 (2.1)
ADRs occurring with a ≥1% incidence by PT	
System organ class	
Blood and lymphatic system disorders	23 (3.0)
Leukocytosis	18 (2.4)
Thrombocytopenia	9 (1.2)
Gastrointestinal disorders	42 (5.5)
Diarrhea	28 (3.7)
Nausea	11 (1.4)
Vomiting	12 (1.6)
Investigations	34 (4.5)
Blood lactate dehydrogenase increased	18 (2.4)
WBC count increased	10 (1.3)
Serum alkaline phosphatase increased	14 (1.8)

The most common ADRs reported in the current study were gastrointestinal disorders (5.5%), laboratory investigations (4.5%), and blood and lymphatic system disorders (3.0%). Major ADRs included diarrhea (n = 28 [3.7%]), leukocytosis (n = 18 [2.4%]), blood LDH increased (n = 18 [2.4%]), serum ALP increased (n = 14 [1.8%]), vomiting (n = 12 [1.6%]), and nausea (n = 11 [1.4%]).

SCHEDULES FOR PBSC MOBILIZATION

- **MOBILIZATION WITH G-CSF ALONE**
- **G-CSF+CHEMO WITH DISEASE-SPECIFIC SCHEDULES? (E.G. DHAP): Lymphomas**
- **G-CSF+CHEMO WITH CYTOXAN (2-4 G/M2): MM**

HOW AND WHEN ADDING PLERIXAFOR?

- *Upfront….???*
- ***On demand or just in time…. (dynamic approach)***
- *Pre-emptive approach (a priori identification of PM….)*
- *Rescue remobilization after failure of 1rst attempt …….*

The «ideal collection»

- Large number of CD34+ (>2 ASCT procedures)…
- …in one short LK procedure…
- …withouth need of several days of monitoring…
- …withouth reaching exagerate Leukocyte count…
- …*with low PMN contamination…*
- *…with high immunocompetent cell content…*
- …with low/absent tumor cell contamination…
- …easy to plan (fixed collection day!)…
- …no need of toxic mobilizing agents…
- …no SAE during the mobilization.

Feasibility of ASCT

Less costs, better QOL

Minor risk,

Better product

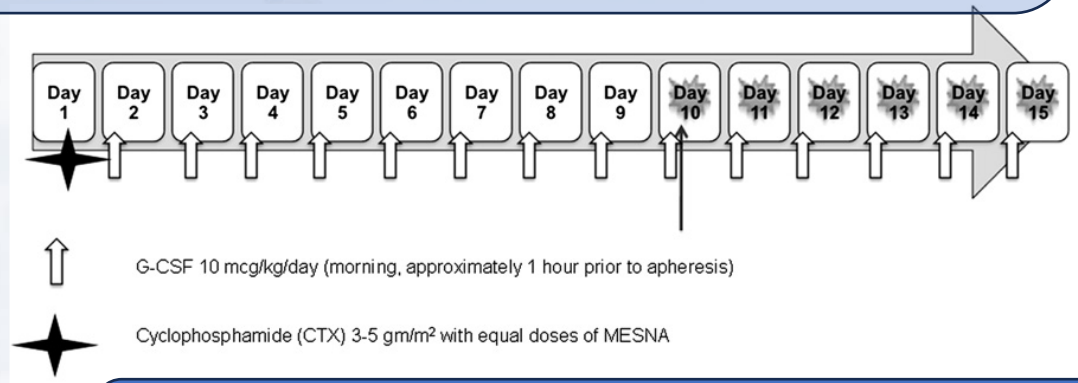
- **Appropriate use of resources**
- **Less morbidity**

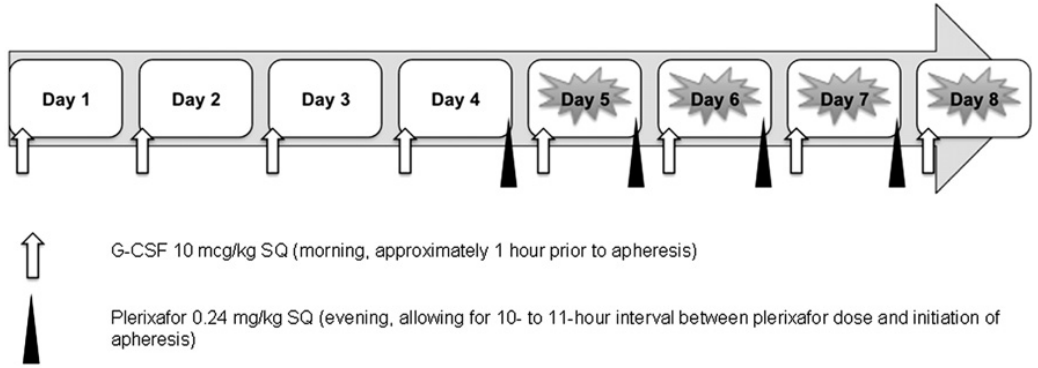
Cost and Clinical Analysis of Autologous Hematopoietic Stem Cell Mobilization with G-CSF and Plerixafor Compared to G-CSF and Cyclophosphamide

Paul Shaughnessy,[1] Miguel Islas-Ohlmayer,[1] Julie Murphy,[2] Maureen Hougham,[1]

Biol Blood Marrow Transplant 17:729-736, 2011

G-CSF+plerixafor can mobilize autologous HSC as well as G-CSF+chemotherapy, with similar transplant engraftment outcomes.





Median total cost of mobilization was not different between the plerixafor/G-CSF and control groups ($14,224 versus $18,824; P=0.5.45)

	G-CSF+ Plerixafor	CHEMO+ G-CSF
Median total $CD34^+$ cells $\times$ 10^6/kg, n (range)	10.7 (3.5-37.9)	11.6 (2.1-69.3)
Number of patients collecting $\geq 2 \times 10^6$ $CD34^+$ cells/kg (%)	33 (100%)	33 (100%)
Number of patients collecting $\geq 5 \times 10^6$ $CD34^+$ cells/kg (%)	31 (94%)	25 (76%)
Number of MM patients collecting $\geq 3 \times 10^6$ CD 34^+ cells/kg (%)	13/13 (100%)	11/13 (85%)
Number of MM patients collecting $\geq 6 \times 10^6$ CD 34^+ cells/kg (%)	20/20 (100%)	18/20 (90%)
Median number of apheresis days (range)	1 (1-4)	1 (1-4)
Number of patients initiating apheresis on scheduled day (%)	33 (100%)	29 (88%)
Number of patients requiring weekend apheresis (%)	0	16 (48%)
Total number of weekend apheresis procedures	0	19

- Kallmeyer et al, BMT, 2011 ; Sinclair et al, J Clin Apher, 2013 : pre-emptive Plerixafor (used in 16% of cases) associated to 91% mobilization success. Incremental cost of 1456 euros/patient.
- Vishnu et al, Transfusion, 2012: estimate of Plerixafor pre-emptive benefit: 19300 $/patient
- NHS Scotland, Scottish Medicines consortium, 2009: Plerixafor achieves 0.41 QALY at cost of £15,561 compared to GCSF+CY
- *Shaughnessy et al, Biol Blood Marrow Transplant 2011: similar costs of CTX+G-CSF , compared to Plerixafor*
- Martin et al, J Clin Apher, 2016 Plerixafor upfront in lymphoma patients: significant advantage (-3828 $;) not confirmed in MM patients (+5245 $)
- D Laszlo et al Transfus Apher Sci 2020 Mobilization cost components significantly lower for G-CSF+plerixafor vs G-CSF+CTX for hospital stay (3080 euros vs 9653 euros; for mobilizing agent, significative difference with 5470 euros for G-CSF and plerixafor compared with 1140 euros Cy+G-CSF
- Lazzaro et al, 2021, A comparison of chemo-free strategy with G-CSF plus plerixafor on demand versus intermediate-dose cyclophosphamide and G-CSF as PBSC mobilization in newly diagnosed multiple myeloma patients: An Italian explorative cost analysis

Plerixafor on demand: preliminary experiences in different settings showed the cost-effectiveness of Plerixafor+G-CSF

Bone Marrow Transplantation (2021) 56:1876–1887

Chemotherapy-based versus chemotherapy-free stem cell mobilization (± plerixafor) in multiple myeloma patients: an Italian cost-effectiveness analysis

Carlo Lazzaro[1] · Luca Castagna[2] · Francesco Lanza[3] · Daniele Laszlo[4] · Giuseppe Milone[5] · Luca Pierelli[6] · Riccardo Saccardi[7]

chemotherapy-free mobilization (± on-demand plerixafor) is a cost-effective healthcare program for patients with MM who are eligible for autologous SCT in Italy.

Table 3 Base case cost-effectiveness analysis (€2019).

Mobilization schemes	Cost	Effectiveness[a]
CTX 4 g/m^2 + G-CSF ± on-demand PLX	€ 9238.44	0.714
G-CSF ± on-demand PLX	€ 8039.85	0.766

Parameters	G-CSF (± on-demand PLX)	CTX + G-CSF (± on-demand PLX)
Demographic and anthropometric parameters		
Age, years, mean (range)	57.62 (51.38, 62.38)	57.62 (51.38, 62.38)
Bodyweight, kg, mean (95% CI)	70.00 (26.34, 134.61)[a]	70.00 (26.34, 134.61)[a]
Height, cm, mean (95% CI)	170.00 (136.68, 203.32)[a]	170.00 (136.68, 203.32)[a]
Mobilization parameters, mean (95% CI)		
Number of vials of on-demand PLX	0.71 (0.00, 3.04)[a]	0.14 (0.00, 1.22)[a]
Days of hospitalization for CTX administration	0	2.00 (0.75, 3.85)[a]
Days of hospitalization for febrile neutropenia	0	0.35 (0.00, 2.04)[a]
Number of RBC transfusions	0	0.24 (0.00, 1.68)[a]
Number of PLT transfusions	0	0.12 (0.00, 1.10)[a]

In this model, patients undergoing chemotherapy-free and chemotherapy-based mobilization received a mean of 0.71 and 0.14 vials of on-demand plerixafor, respectively

Cost analysis of a randomized stem cell mobilization study in multiple myeloma

Ville Varmavuo[1,2], Raija Silvennoinen[3,4], Pekka Anttila[4], Marjaana Säily[5], Marja Sankelo[6], Mervi Putkonen[7], Jouni Ahonen[8], Eija Mahlamäki[9], Pentti Mäntymaa[9], Eeva-Riitta Savolainen[10], Kari Remes[7,11], Esa Jantunen[3]

Ann Hematol 2016 Oct;95

MM patients received mobilization with CY+G-CSF (A) or with G-CSF alone (B): 80 MM pts *treated with RVD* for three 21-day cycles and randomized 1:1 (Plerixafor on demand)

The median total costs mobilization were significantly higher in arm A (3855 € vs. 772 €). Cumulative median cost of the mobilization and collection phases was significantly *lower in arm B than in arm A (8524 € vs. 11,622 €, p = 0.012).*

No significant difference between the arms in the total median costs of ASCT (*n* = 59) (34,997 € in arm A vs. 31,981 € in arm B).

Mobilization with G-CSF alone, a preferable mobilization method for MM patients in terms of mobilization and apheresis costs. In addition, it requires less hospital resource utilization.

A comparison of peripheral blood stem cell collection outcomes for multiple myeloma; mobilization matters in the era of IMiD induction

13 April 2023

eJHaem

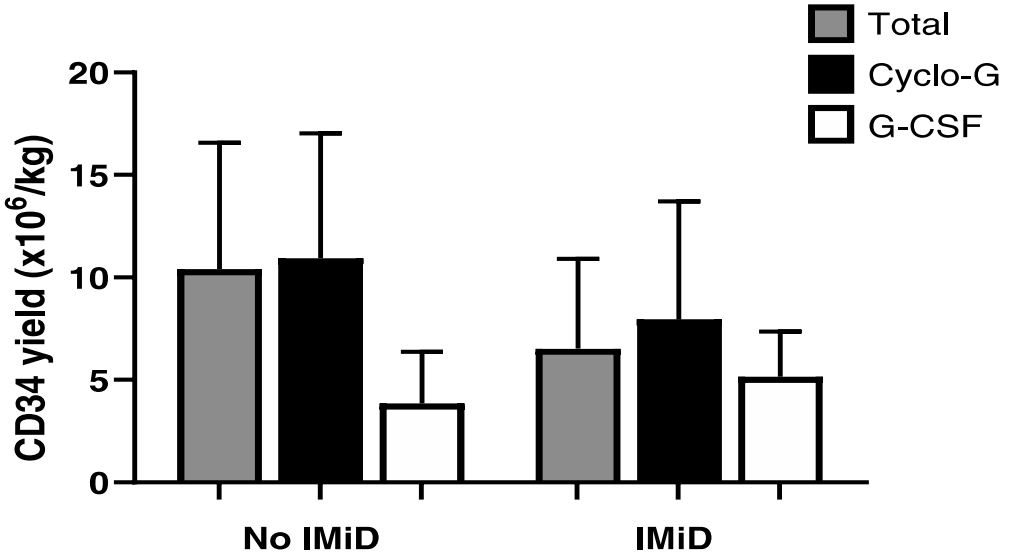
Thea Chandler[1] | Christopher Parrish[1] | Marina Karakantza[2] |

FIGURE 3 Rescue plerixafor use and failure rates by mobilization regimen.

Cyclophosphamide plus G-CSF (cyclo-G) mobilization yielded more $CD34^+$ cells (8.94 vs. 4.88 $\times 10^6$/kg, $p = < 0.0001$) over fewer days (1.6 vs. 2.4 days, $p = 0.007$), and required fewer doses of salvage Plerixafor than G-CSF only (13.6% vs. 35%, $p = 0.0407$). IMiD-containing induction impaired all of these factors. $CD34^+$ doses > 8×10^6/kg were more frequent with Cyclo-G (62% vs. 11%, $p = 0.0001$), including for those receiving IMiD 1st line induction (50% vs. 13.3%, p = 0.0381). Note that 92.6% of those receiving IMiD-free inductions were mobilized with Cyclo-G.

NHS indicative price of Plerixafor equating to £4882.77 per 20 mg vial (the standard dose for patients up to 84 kg), there are potential

The novel agents used in modern induction regimens (e.g Daratumumab) have been shown to impair yields, increasing the importance of optimizing mobilization regimens in the first instance. Furthermore, as cellular therapies become established in the management of multiple myeloma emerging data highlights the potential benefits of stem cell top up in the management of the haematological toxicities of these therapies. Our findings support re-adoption of Cyclo-G as the gold standard for mobilization to optimize PBSC harvesting and ensure sufficient cells for subsequent ASCTs.



Transplant Cell Ther. 2021 July ; 27(7): 590.e1–590.e8. doi:10.1016/j.jtct.2021.04.016.

Stem Cell Mobilization in Multiple Myeloma: Comparing Safety and Efficacy of Cyclophosphamide +/– Plerixafor versus Granulocyte Colony-Stimulating Factor +/– Plerixafor in the Lenalidomide Era

Andrew Johnsrud[1,2], Abdullah Ladha[2,3], Lori Muffly[1,2], Parveen Shiraz[1,2], Gary Goldstein[2], Victoria Osgood[2], Judith A. Shizuru[1,2], Laura Johnston[1,2], Sally Arai[1,2], Wen-Kai Weng[1,2], Robert Lowsky[1,2], Andrew R. Rezvani[1,2], Everett H. Meyer[1,2], Matthew J. Frank[1,2], Robert S. Negrin[1,2], David B. Miklos[1,2], Surbhi Sidana[1,2,*]

Patients stratified into 3 groups:

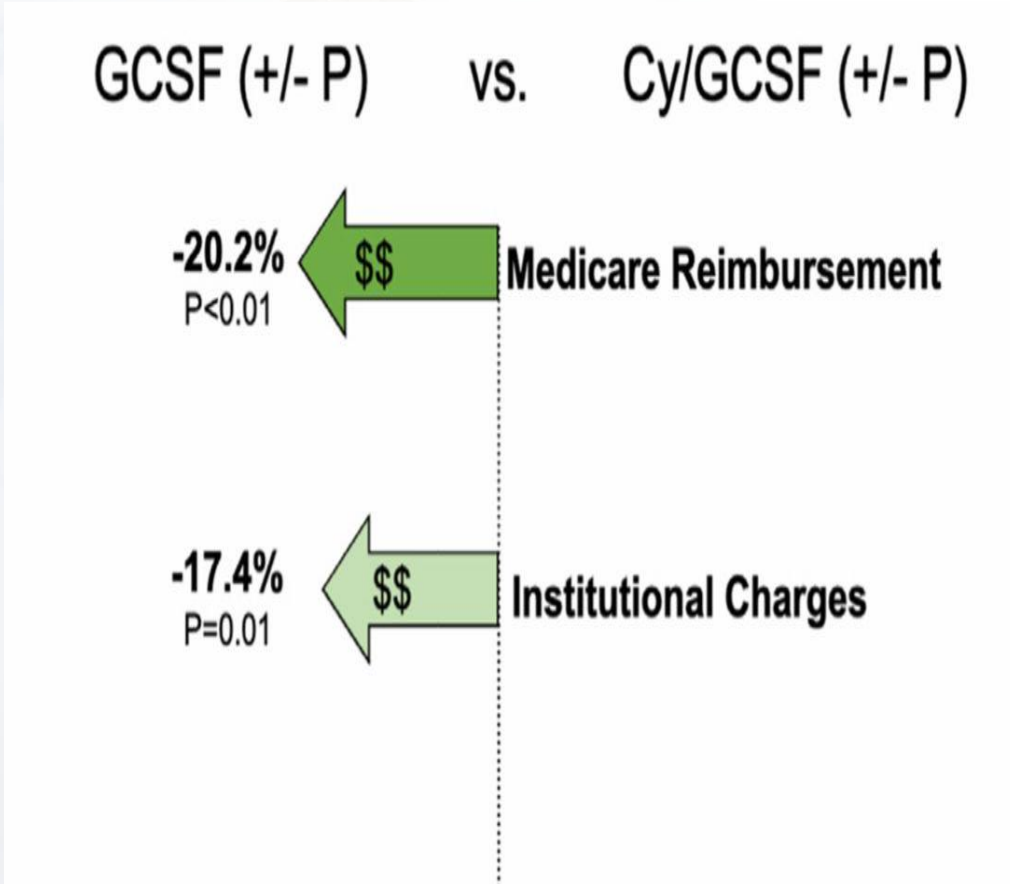
1. ***No previous Lena exposure (60);***
2. ***≤6 cycles of Lena (199);***
3. ***≥6 cycles of Lena exposure (138)***

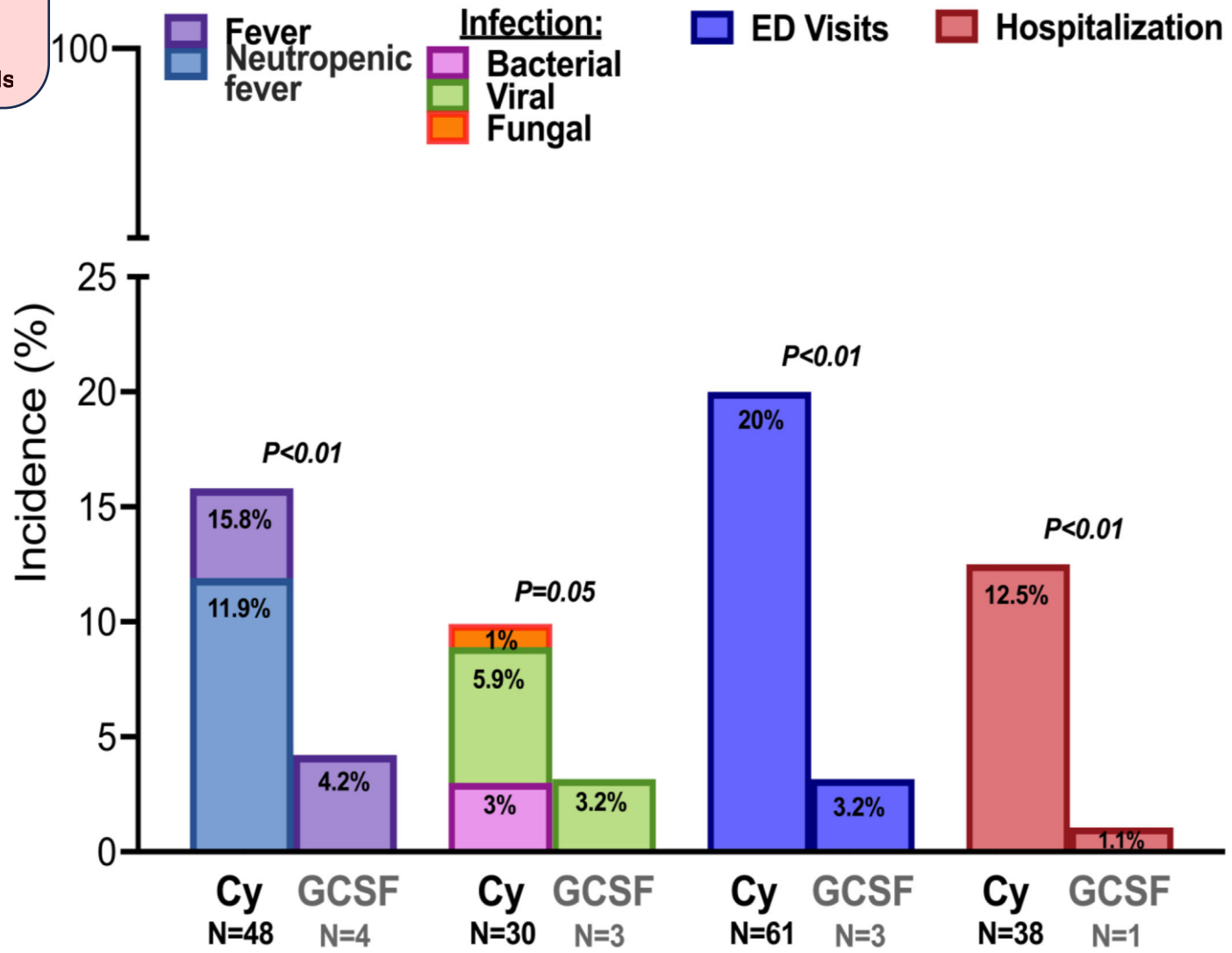
Previous lenalidomide exposure for ≤6 cycles did not impair cell yield compared with patients without lenalidomide exposure

Stem Cell Mobilization in Multiple Myeloma: Comparing Safety and Efficacy of Cyclophosphamide +/– Plerixafor versus Granulocyte Colony-Stimulating Factor +/– Plerixafor in the Lenalidomide Era

Andrew Johnsrud[1,2], Abdullah Ladha[2,3], Lori Muffly[1,2], Parveen Shiraz[1,2], Gary Golds

Transplant Cell Ther. 2021 July





Previous IMID exposure

- **In patients with lenalidomide exposure;** P+G-CSF and CTX have been shown to be effective approaches.

- Mobilization with G-CSF alone should be avoided in patients with extensive (>4 to 6 cycles) lenalidomide pretreatment.

Strong recommendations in favour of CTX versus P+G-CSF cannot be made owing to a lack of data;
controlled prospective trials comparing the 2 strategies are needed…..

Stem cell yield and transplantation in transplant-eligible newly diagnosed multiple myeloma patients receiving daratumumab + bortezomib/thalidomide/dexamethasone in the phase 3 CASSIOPEIA study

Letters to the Editor — *Cyrille Hulin et al....HOVON* — haematologica | 2021; 106(8)

	D-VTd	VTd
Patients with stem cell mobilization	**N=506**	**N=492**
PBSC mobilizing agents, n (%)[a]		
Cyclophosphamide/G-CSF	506 (100)	492 (100)
Plerixafor	110 (21.7)	39 (7.9)
PBSC apheresis performed, n (%)	504 (99.6)[c]	490 (99.6)[d]
Patients with PBSC apheresis performed	**N=504**	**N=490**
Number of days of apheresis, mean [SD] (range)	1.9 [0.92] (1–6)	1.4 [0.67] (1–4)
≥5 × 10^6/kg, n (%)	380 (75.4)	434 (88.6)
Patients who underwent transplantation, n (%)	489 (97.0)	484 (98.8)
Number of $CD34^+$ stem cells transplanted (10^6/kg), Mean [SD] (range)	3.6 [1.59]	5.0 [2.80]

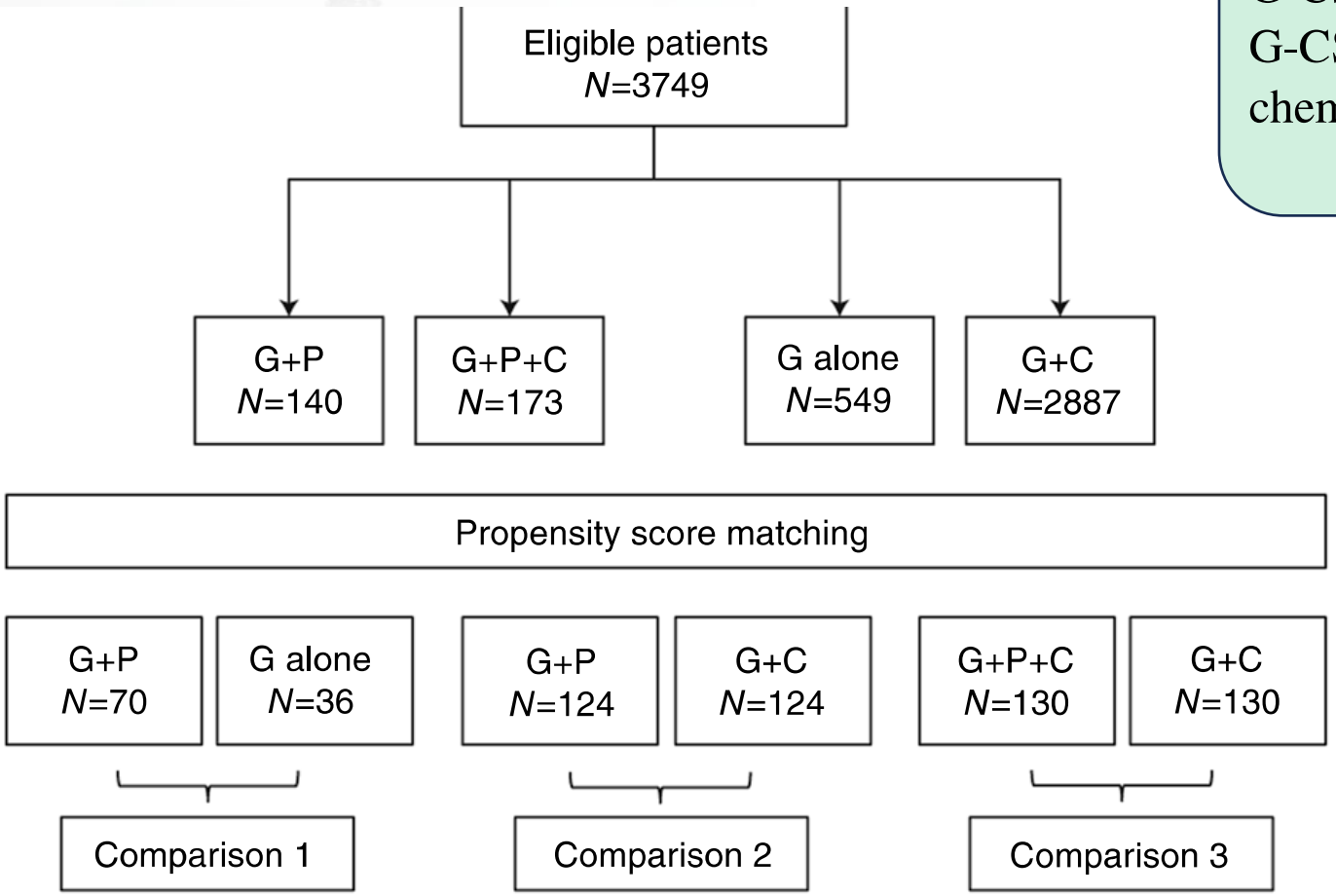
Daratumomab did not impair feasibility and safety of transplantation with successful engraftment, even though stem cell yield was lower

Analysis of data collected in the European Society for Blood and Marrow Transplantation (EBMT) Registry on a cohort of lymphoma patients receiving plerixafor

Anna Sureda[1] · Christian Chabannon[2] · Tamás Masszi[3] · David Pohlreich[4] · Christof Scheid[5] ·

Bone Marrow Transplantation (2020) 55:613–622

G-CSF + plerixafor versus G-CSF alone;
G-CSF + plerixafor versus G-CSF + chemotherapy;
G-CSF + plerixafor + chemotherapy versus G-CSF + chemotherapy.



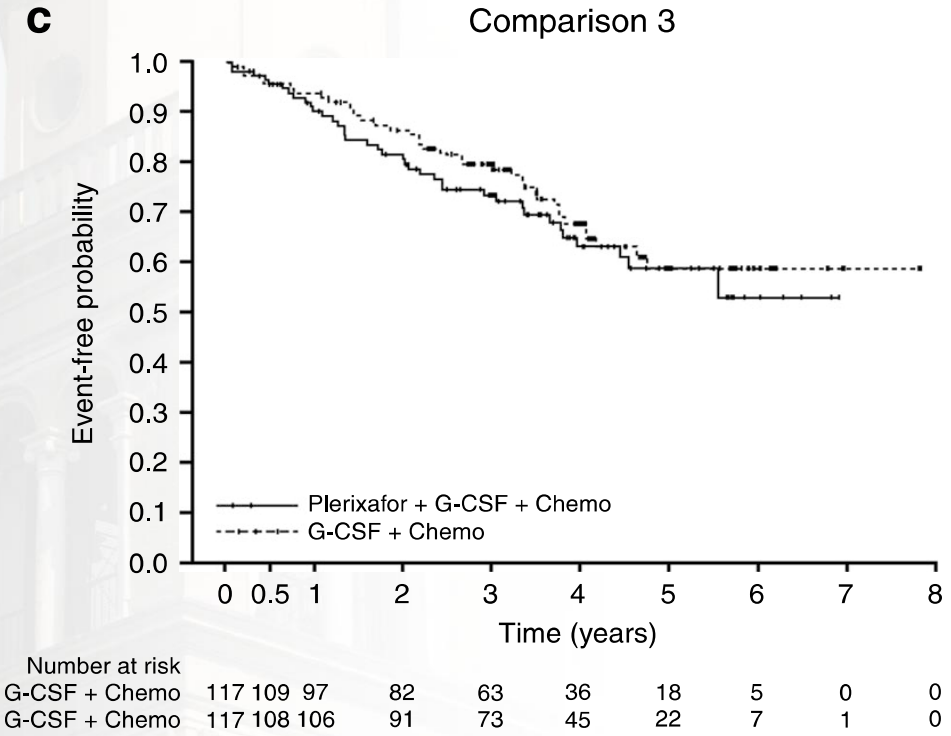
PFS, OS, and CIR were numerically similar between comparators

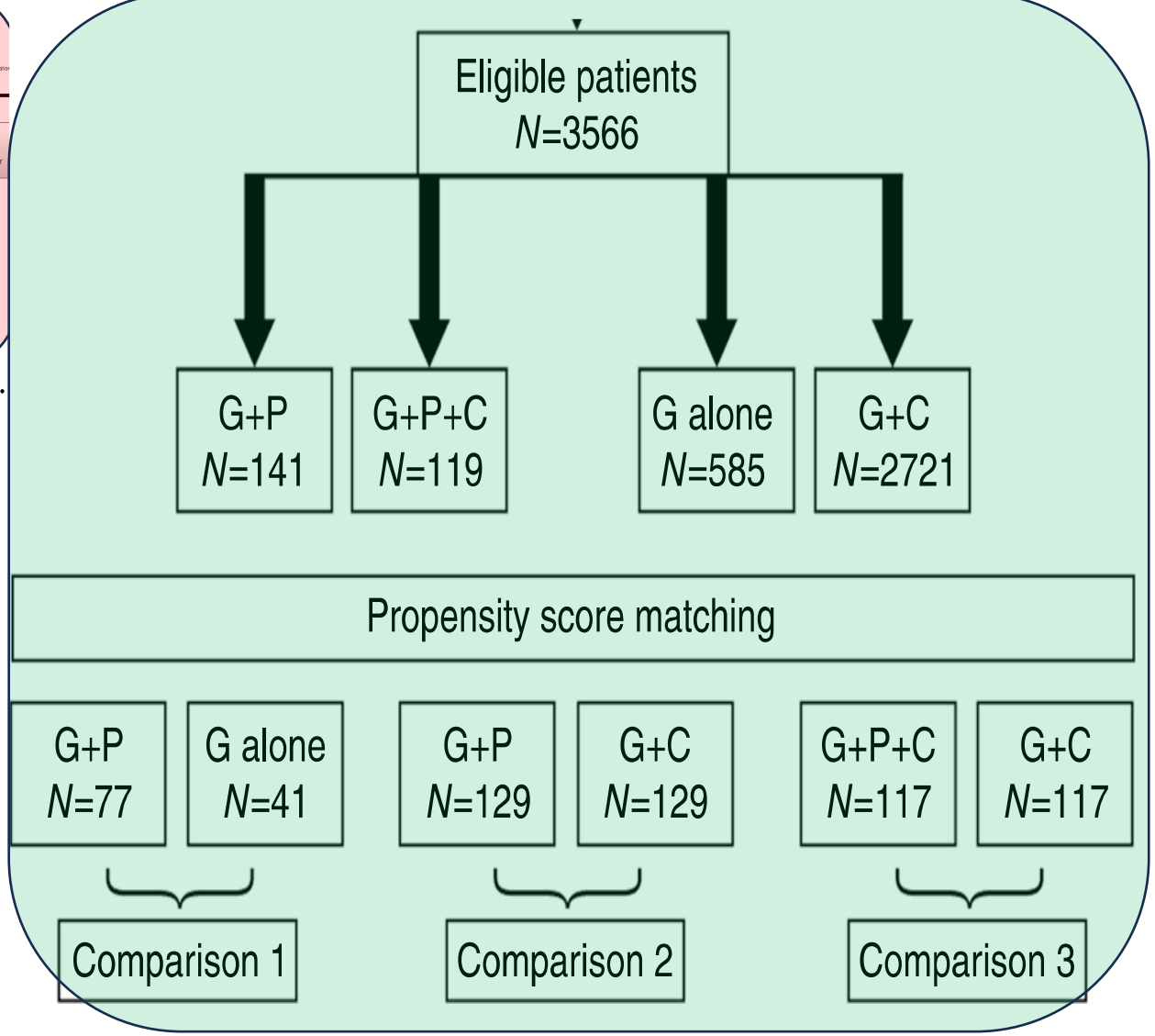
Bone Marrow Transplantation (2020) 55:356–366
https://doi.org/10.1038/s41409-019-0676-0

ARTICLE

Results from a multicenter, noninterventional registry study for multiple myeloma patients who received stem cell mobilization regimens with and without plerixafor

Curly Morris[1] · Christian Chabannon[2] · Tamas Masszi[3] · Nigel Russell[4] · Hareth Nahi[5] · Guido Kobbe[6] · Marta Krejci[7] · Holger W. Auner[8] · David Pohlreich[9] · Patrick Hayden[10] · Grzegorz W. Basak[11] · Stig Lenhoff[12] · Nicolaas Schaap[13] · Anja van Biezen[14] · Cora Knol[14] · Simona Iacobelli[15] · Qianying Liu[16] · Marina Celanovic[16] · Laurent Garderet[17] · Nicolaus Kröger[18]





Despite propensity scoring, there were more proven poor mobilizers in the plerixafor cohorts, which may have influenced the outcomes

CONCLUSIONS

- Clinical efficacy and safety data of Plerixafor pre-emptive are robust; factors limiting its use are the costs; however the economic analysis must take into account logistical advantages: lower hospitalization rate, fewer complications; better planning and optimization of apheresis sessions.

- Although the general policies regarding ASCT in MM and lymphoma are similar in many centers, there is still great heterogeneity in mobilization strategies….

- The different policies as regard the ASCT and the SC procurement planning not only depend on the different interpretation of some scientific issues regarding ASCT, but also on the availability of economic and logistical resources in different centers.

- G-CSF+Plerixafor «just in time» is recommended over a second mobilization attempt in most currently guidelines!

CHEMO-FREE MOBILIZATION: THE REASONS FOR ……YES!

- **In lymphomas** ASCT indications are declining; CHT+G-CSF mobilization in R/R pts makes hard response evaluation and LK planning: a rescue TX can be carried out without contestual blind mobilization (useless if the patient does not respond completely or in case of disease recurrence);

- G-CSF+Plerixafor can be easily planned in selected pts in CR, so avoiding either burdening the logistics either delaying CART. Chemo+G-CSF requires hospitalization and pts should carry out several blood counts to identify the nadir and the rise of WBC/Plt/CD34+.

- **In MM** CTX+G-CSF is certainly effective, improving CD34+ collection in pts heavily exposed to IMID/Dara; however mobilization is generally performed before Lena (used in maintenance after and not before ASCT);
- CTX+G-CSF can increase the efficacy of mobilization after DARA and could be better in case of tandem ASCT. However, this target is requested less and less frequently.
- CTX+G-CSF does not allow to accurately predict the day of 1rst apheresis and it is associated with infections or non-infectious toxicity (so increasing the indirect costs).
- G-CSF+Plerixafor on demand is easy to apply and flexible: different algorythms proposed (from the circulating CD34/WBC ratio to the first LK collection) allow to establish a clerar collection calendar.

Thanks....

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All patients and their families

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GITMO
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