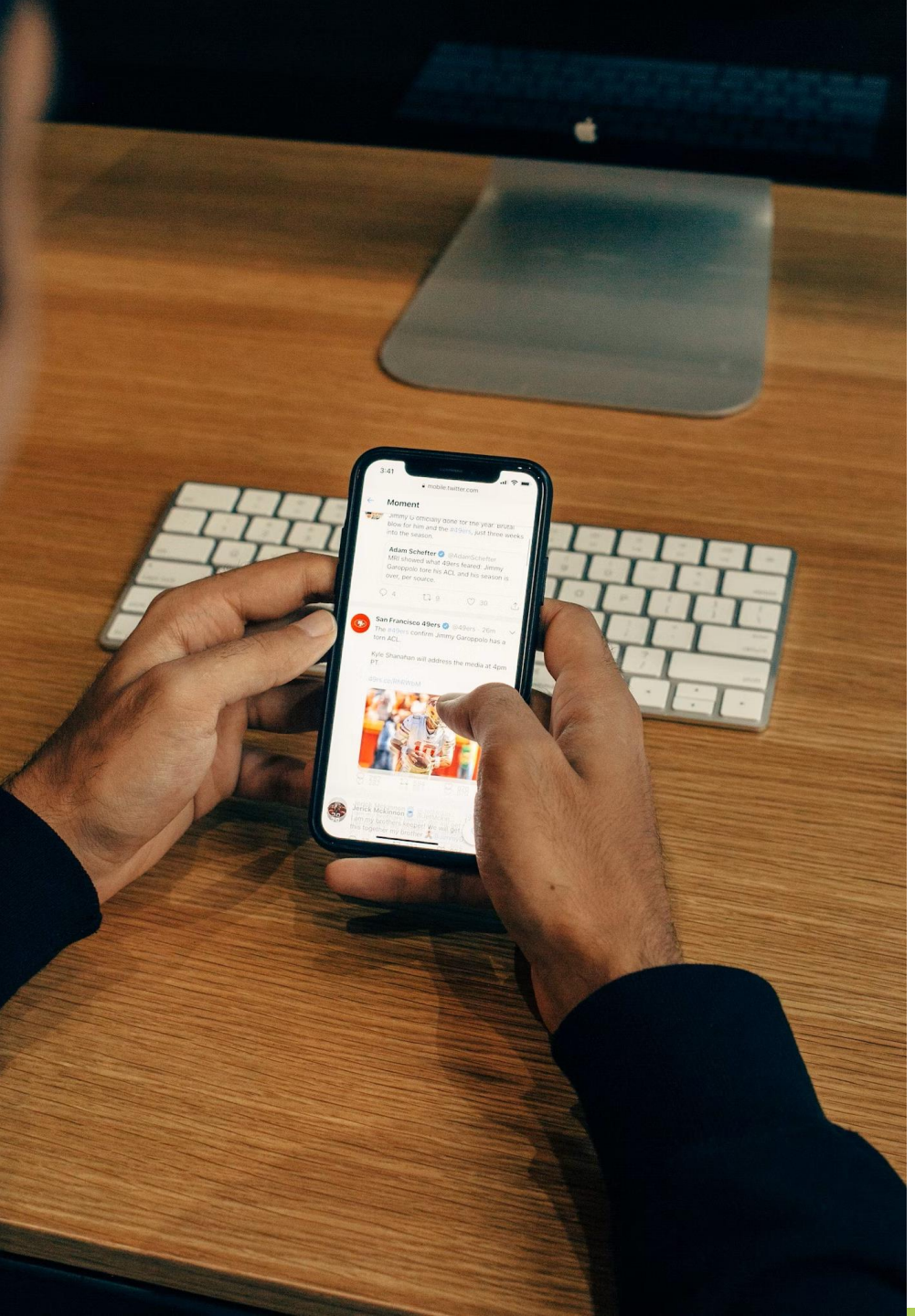


SMML newsletter

January 2024

Based on data from December 2023

Monthly updates around multiple myeloma

MMsyndiTrack™

Objectives

The goal of this newsletter is to give an overview of what is happening around multiple myeloma in terms of medical developments. This is achieved by monitoring news articles, PR releases and scientific reports on one hand. Conversations from HCPs, digital opinion leaders and other influencers attending congresses, offering their opinion on treatments and commenting on new developments on the other hand.

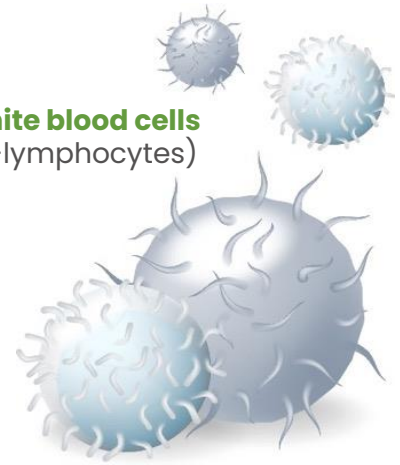
Who will benefit from this newsletter?

Any professionals interested in keeping up with developments around multiple myeloma:

- Marketers
- Business Analysts
- But also HCPs who want to anticipate the future landscape of MM management

Introduction on Multiple Myeloma

What is Multiple Myeloma?



White blood cells
(B-lymphocytes)

70
YEARS

■ 5 year survival rate ~50%

Read more on Multiple Myeloma:

MSD MANUAL
Professional Version

→ Professional version in English

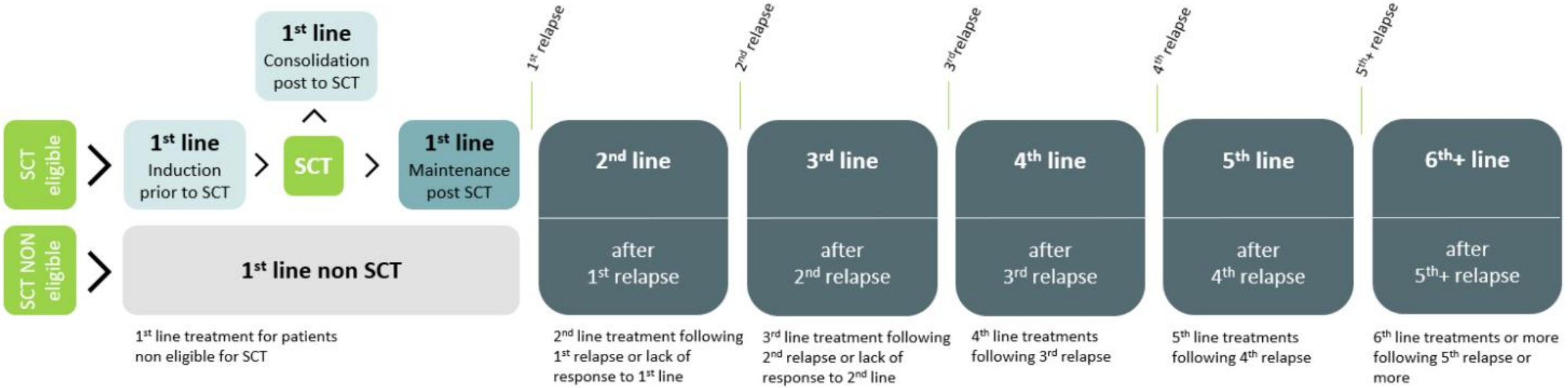
→ Professional version in French

MSD MANUAL
Consumer Version

→ Consumer version in English

→ Consumer version in French

MM lines of therapy based on to the following definitions



1st line Induction prior SCT

For stem cell candidates, the first step to gain a response to reduce the tumor burden before SCT.
Please note that patients who received more than one SCT are considered to be in "1st line prior to stem cell transplant" for the latest SCT procedure planned. For instance, should a patient receive an induction treatment prior to a 2nd SCT, he should be considered as a 1st line transplant patient.

1st line Consolidation post SCT

1st line therapy **after** stem cell transplant to **deepen the response** achieved by adding a **short course** of full dose therapy.

1st line Maintenance post SCT

1st line therapy **after** stem cell transplant to **sustain the quality of the response** achieved by adding a long course – from several months up to disease progression – of reduced dose therapy.

Drugs approved by European Medicines Agency (EMA)

Brand name	Active substance	Manufacturer	Class of therapy	EMA Date of authorisation	Line of treatment	Product Monograph
Revlimid®	lenalidomide	BMS	Immunomodulating agents (IMiDs)	14/06/2007	All lines	Click here
Thalidomide® / Thalomid® (US)	thalidomide	BMS	Immunomodulating agents (IMiDs)	16/04/2008	All lines	Click here
Imnovid® / Pomalyst® (US)	pomalidomide	BMS	Immunomodulating agents (IMiDs)	05/08/2013	2L+ (after Revlimid and Velcade)	Click here
Pepaxti® / Pepaxto® (US)	melflufen	Oncopeptides AB	Peptide conjugated alkylator	17/08/2022	Triple class exposed / 3L+ / 4L+ / 5L+	Click here
Velcade®	bortezomib	Janssen	Proteasome inhibitors (PIs)	26/04/2004	1LSCT / 1LNSCT	Click here
Kyprolis®	carfilzomib	Amgen	Proteasome inhibitors (PIs)	19/11/2015	2L+ / 3L+	Click here
Ninlaro®	ixazomib	Takeda	Proteasome inhibitors (PIs)	21/11/2016	2L+	Click here
Farydak®	panobinostat	Novartis + (Secura Bio)	Histone deacetylase inhibitors (HDACis)	28/08/2015	2L+ Relapsed / Refractory	Click here
Darzalex®	daratumumab	Janssen	Monoclonal antibody against CD38 (Mabs)	20/05/2016	All lines	Click here
Empliciti®	elotuzumab	BMS + (AbbVie)	Monoclonal antibody against SLAMF7 (Mabs)	11/05/2016	2L+ / 3L+	Click here
Sarclisa®	isatuximab	Sanofi	Monoclonal antibody against CD38 (Mabs)	30/05/2020	2L+ / 3L+	Click here
Tecvayli®	teclistamab-cqyv	Janssen	Bispecific B-cell maturation antigen (BCMA)-directed CD3 T-cell engager	21/07/2022	4L+ (1Pi + 1 IMiDs + 1anti-CD38 Mabs)	Click here
Talvey®	talquetamab-tgvs	Janssen	Bispecific antibody targeting GPRC5D receptor	09/08/2023 (FDA)	4L+ (1Pi + 1 IMiDs + 1anti-CD38 Mabs)	Click here
Elrexfio®	elranatamab-bcmm	Pfizer	Bispecific B-cell maturation antigen (BCMA)-directed CD3 T-cell engager	14/08/2023 (FDA)	4L+ (1Pi + 1 IMiDs + 1anti-CD38 Mabs)	Click here
Blenrep® / Belamaf® (US)	belantamab mafodotin-blmf	GSK	Antibody-drug conjugates (BCMA)	25/08/2020	2L+ (4L+ after P, IMiD and MAB (L5+ in Italy)	Click here
Nexpovio® / Xpovio® (US)	selinexor	Karyopharm Therapeutics	Nuclear export inhibitor (SINE)	26/03/2021	Penta-refractory (2xPI + 2xIMiDs + 1 Mab)	Click here
Venclyxto® / Venclexta® (US)	venetoclax	AbbVie	B-cell lymphoma 2 (BCL-2)	04/12/2016	2L+ (already used in CLL / AML treatments)	Click here
Abecma®	idecabtagene vicleucel	BMS	Cell-based gene therapy (CAR-T)	18/08/2021	Triple class exposed / 3L+ / 4L+ / 5L+	Click here
Carvykti®	ciltacabtagene autoleucel	Janssen	Cell-based gene therapy (CAR-T)	25/05/2022	L3 / L4+ / L5+	Click here
Aredia®	pamidronate	Novartis	Bisphosphonates for bone disease	31/10/1991	Supportive care / Long-term use (5+ years)	Click here
Zometa®	zoledronate	Novartis	Bisphosphonates for bone disease	20/03/2001	Supportive care / Long-term use (5+ years)	Click here
Prolia® + Xgeva®	denosumab	Amgen	Bisphosphonates for bone disease	26/05/2010 - 13/07/2011	Supportive care	Prolia® / Xgeva®
Mozobil®	plerixafor	Genzyme	Stem cell mobilazor	30/07/2009	Supportive care	Click here

MM treatment history timeline

- IMiDs
- PIs
- IMS
- Mabs
- HDACi
- SINE
- BCMA
- CAR-T
- BisAbs

1844 — *"Rhubarb & orange peel, strengthening plaster to the chest, a pound of blood removed & leeches applied for maintenance therapy".*

1947 — Urethane

1958 — Melphalan

1962 — Corticosteroids

1983 — Autologous transplantation

1984 — Vincristine + Adriamycin + Dexamethasone

1999 — thalidomide

2002 — bortezomib (Velcade®)

2005 — lenalidomide (Revlimid®)

2010 — bendamustine (Levact®)

2012 — carfilzomib (Kyprolis® US)

2013 — pomalidomide (Imnovid®/Pomalyst®)

2015 — panabinostat (Farydak®); carfilzomib (Kyprolis® EU)

2016 — elotuzumab (Empliciti®); daratumumab (Darzalex®); ixazomib (Ninlaro®)

2020 — belantamab mafodotin (Blenrep® EU Belamaf ® US); selinexor (Nexpovio® EU Xpovio® US); isatuximab (Sarclisa®)

2021 — idecabtagene vicleucel (Abecma®)

2022 — ciltacabtagene autoleucel (Carvykti®); teclistamab (Tecvayli®)

2023 — melflufen (Pepaxti® EU Pepaxto® US); talquetamab (Talvey®); elranatamab (Elrexfio®)

20?? — marizomib, anetumab ravtansine, venetoclax, oprozomib

MM studies at APLUSA

17+ YEARS

18+ COUNTRIES OVER TIME

UP TO **90** HCPs per wave per country

UP TO **4** WAVES per year

4,5k PATIENTS CHARTS per wave

18k PATIENTS CHARTS per year (in EU5)

What's new MMsyndiTrack™

Launching of a US pilot wave, Why ?

- Needs from clients for MM US data
- Back data for EU5 for 15 years
- MM US market changing fast
- Different needs in the US market for labs (patients' ethnicity treatments gap as an example)

Japan data soon available!

APLUSA's added value

- Quarterly + month to month data collection (our competitors → only quarterly data)
- Market adaptability: adjusting our questionnaires and updating the list of treatments by including market trends on a monthly basis → **new CAR-Ts + BisAbs**
- Patient's full treatment history
- Deliverables with Power BI DID

December 2023

CONTENTS

SCOPE

The scope of the analysis is focused on mentions coming **worldwide**.*

There were a total of **35K** mentions from patients recorded during the listening period from **December 1st, 2023,** to **December 31st, 2023**.

A majority of mentions came from **X (formerly Twitter) (57%), News (39%), Reddit (1%), Forums (1%), Reddit (1%),** and **tumblr (1%).**

A total of **6K** unique authors were identified.

myeloma OR multiplemyeloma OR #mmsm OR #Myeloma OR #Curemyeloma* OR #mmmrd OR #mmsm OR title: ("multiple myeloma" OR myeloma)

Social media listening period : December 2023
Scope: worldwide in English

Methodology

WEB

*Extraction**

35 180 Mentions

Filtering

Also includes:
- patient testimonies
- Post from associations
- financial/market news
- Articles/press release not focusing solely on multiple myeloma

myeloma OR multiplemyeloma OR #mmsm OR #Myeloma OR #Curemyeloma* OR #mmmrd OR #mmsm OR title: ("multiple myeloma" OR myeloma)

Phase II and III clinical trials

- Phase II: 1 800 articles
- Phase III: 1 201 articles

Exclude:
- *Financial/market news*
- *Phase I/II clinical trials*
- *Articles non-focusing solely on phase II or III developments*

HCPs

2 587 Mentions

X (formerly Twitter), Reddit, or forums users self-referencing as healthcare professionals in their bio/flags

Press releases

4 385 Mentions

Articles flagged as being press releases

Market watch

136 Mentions

Articles mentioning drug approval by a national healthcare authority.

Can also include non-approvals as well as additional authorizations and recommendations (e.g., medical reimbursements, etc.)

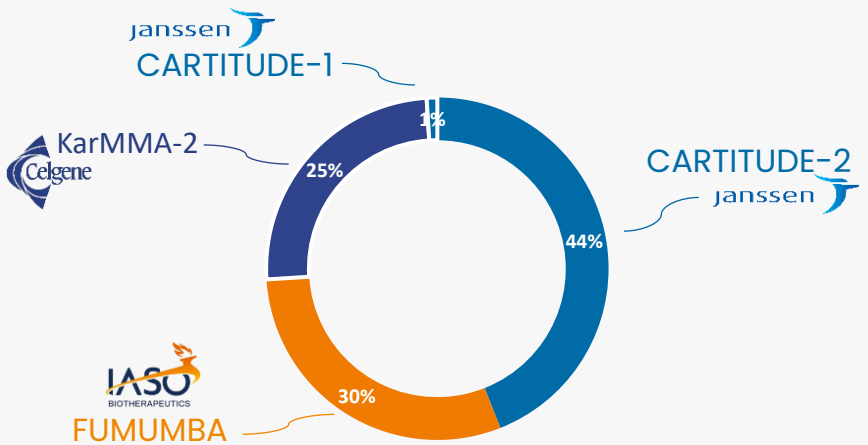
Social media listening period : December 2023
Scope: worldwide in English

Drugs in clinical trials (Phase II) monitored during the listening period

Sponsor	Trial name + link (ctrl + right click)	Line of treatment	Combination/Monotherapy being studied	Note
AbbVie	NCT03314181	RR	venetoclax, daratumumab and dexamethasone (With and Without Bortezomib)	
Bristol-Myers Squibb	ELOQUENT-3	RR	elotuzumab, pomalidomide, dexamethasone	
CARsgen Therapeutics	LUMMICAR-2	RR	Monotherapy: zevorcabtagene autoleucel	
Celgene	KarMMa-2	RR	Monotherapy (one arm with lenalidomide) ; BMTCTN1902: Monotherapy: Idecabtagene vicleucel	
	NCT03374085	RR	Monotherapy: mezigdomide or in combination with dexamethasone	
	NCT03989414	1L/RR	bortezomb, dexamethasone, daratumumab, elotuzumab, isatuximab, carfilzomib	
	NCT03989414	IL/RR	mezigdomide, bortezomib, dexamethasone, daratumumab, carfilzomib, elotuzumab, isatuximab	
Cellular Biomedicine Group	NCT05521802	RR	Monotherapy: C-CAR088	
Gilead	NCT05396885	RR	Monotherapy: CART-ddBMCA	
GSK	DREAMM-2	RR	Monotherapy: blenrep	
Janssen	CARTITUDE-1	RR	Monotherapy: ciltacabtagene autoleucel	
	CARTITUDE-2	RR	Monotherapy: ciltacabtagene autoleucel	
	GRIFFIN	1L	daratumumab, lenalidomide, bortezomib, and dexamethasone (D-RVd)	
	MajesTEC-1	RR	Monotherapy: teclistamab	
	MonumenTAL-1	RR	Monotherapy: talquetamab	
	RedirecTT-1	RR	teclistamab, talquetamab, daratumumab	
Nanjing IASO Biotechnology	FUMANBA-1	RR	Monotherapy: equecabtagene autoleucel	
Nexcella	NCT04720313	RR	Monotherapy: NXC-201	
Pfizer	MagnetisMM-3	RR	Monotherapy: elranatamab	
	MagnetisMM-9	RR	Monotherapy: elranatamab or in combination with dexamethasone	
Regeneron	LINKER-MM1	RR	Monotherapy: REGN5458	
Other	Cardamon	/	cyclophosphamide, dexamethasone, carfilzomib	Sponsor: University College, London
	FORTE	1L	carfilzomib, lenalidomide, daratumumab, dexamethasone	Sponsor: Mario Boccadoro, University of Turin, Italy
	MASTER	/	dexamethasone, lenalidomide, daratumumab, carfilzomib	Sponsor: University of Alabama at Birmingham
	NCT02969837	1L	elotuzumab, carfilzomib, lenalidomide, dexamethasone	Sponsor: University of Chicago
	NCT03590652	RR	daratumumab, ixazomib, pomalidomide, dexamethasone	Sponsor: University of California, San Diego
	NCT04309981	RR	Monotherapy: cesnicabtagene autoleucel (ARI0002h)	Sponsor: Sara V. Latorre
	NCT05123131	1L	isatuximab, bortezomib, lenalidomide, dexamethasone	Sponsor: Cancer Trials Ireland
	REBUILD	RR	Monotherapy: daratumumab	Sponsor: Hellenic Society of Hematology

Phase II Relapse/Refractory CAR-T: Treatment with CARVYKTI® (ciltacabtagene autoleucel) Resulted in Clinically Meaningful Improvements in Health-Related Quality of Life and Reductions in Disease-Specific Symptoms in Patients with Earlier-Line Multiple Myeloma

Clinical trial mentioned/Sponsor



CARTITUDE-2
Ctrl + click to access clinical trial : NCT04133636
"A Study of JNJ-68284528, a Chimeric Antigen Receptor T Cell (CAR-T) Therapy Directed Against B-cell Maturation Antigen (BCMA) in Participants With Multiple Myeloma"

FUMANBA-1
Ctrl + click to access clinical trial: NCT05066646
"A Phase 1/2 Study of a Fully Human BCMA-targeting CAR (CT103A) in Patients With Relapsed/Refractory Multiple Myeloma"

KarMMA-2
Ctrl + click to access the clinical trial: NCT03601078
"An Efficacy and Safety Study of bb2121 in Subjects With Relapsed and Refractory Multiple Myeloma and in Subjects With High-Risk Multiple Myeloma (KarMMa-2)"

CARTITUDE-1
Ctrl + click to access clinical trial: NCT03548207
"A Study of JNJ-68284528, a Chimeric Antigen Receptor T Cell (CAR-T) Therapy Directed Against B-Cell Maturation Antigen (BCMA) in Participants With Relapsed or Refractory Multiple Myeloma"

Headlines/Hot off the press

"Treatment with CARVYKTI® (ciltacabtagene autoleucel) Resulted in Clinically Meaningful Improvements in Health-Related Quality of Life and Reductions in Disease-Specific Symptoms in Patients with Earlier-Line Multiple Myeloma"

"Oral presentations at the 2023 ASH Annual Meeting including patient-reported outcomes from the CARTITUDE-4 study, and longer-term efficacy and safety data from CARTITUDE-2 study cohorts A and B, show the potential of ciltacabtagene autoleucel in earlier lines of treatment"

Click here to read the full article

"IASO Bio and Innovent Present New Data of FUCASO® (Equecabtagene Autoleucel) for Multiple Myeloma Patients in Oral Presentation at ASH 2023"

"IASO biotechnology (…) and Innovent (…) today announced the latest analysis results from the FUMANBA-1 study of Equecabtagene Autoleucel for the treatment of multiple myeloma (…). The presentation highlights the characteristics and efficacy of fully human BCMA-targeting CAR-T Equecabtagene Autoleucel on multiple myeloma patients who had sustained minimal residual disease negativity after receiving treatment."

Click here to read the full article

"Results from Extended Follow-up for Cohort 2c of the KarMMa-2 Study"

Click here to read the full article

"J&J, Legend's Carvykti slapped with FDA black-box warning over secondary cancer risk"

Click here to read the full article

Molecules

- ciltacabtagene autoleucel
- equecabtagene autoleucel
- idecabtagene vicleucel
- ciltacabtagene autoleucel

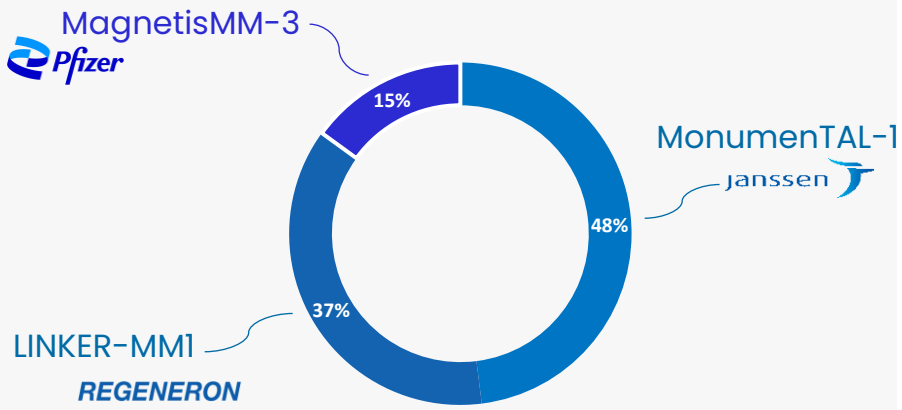
prior lines of therapy

ciltacabtagene autoleucel
treatment of adult patients
2023 American Society of Hematology
refractory multiple myeloma
reductions in disease-specific symptoms
improvements in health-related quality of life
Annual Meeting

Phase II N= 583 mentions
Social media listening period: December 2023
Scope: worldwide in English

Phase II Relapse/Refractory Bispecific antibodies : New Analyses Demonstrate Versatility and Continued Efficacy of TALVEY® (talquetamab) in the Treatment of Patients with Relapsed or Refractory Multiple Myeloma

Clinical trial mentioned/Sponsor



MonumenTAL-1
Ctrl + click to access clinical trial: NCT04634552

"The purpose of this study is to evaluate the efficacy of talquetamab in participants with relapsed or refractory multiple myeloma at the recommended Phase 2 dose(s) (RP2Ds) (Part 3)."

LINKER-MM1
Ctrl + click to access clinical trial : NCT03761108

"Phase 1/2 Study of REGN5458 in Patients With Relapsed or Refractory Multiple Myeloma"

MagnetisMM-3
Ctrl + click to access clinical trial : NCT04649359

"Study Of Elranatamab (PF-06863135) Monotherapy in Participants With Multiple Myeloma Who Are Refractory to at Least One PI, One IMiD and One Anti-CD38 mAb"

Headlines/Hot off the press

New Analyses Demonstrate Versatility and Continued Efficacy of TALVEY® (talquetamab) in the Treatment of Patients with Relapsed or Refractory Multiple Myeloma

"Analysis from MonumenTAL-1 study showed patients with relapsed or refractory multiple myeloma treated with talquetamab were subsequently treated effectively with several classes of therapy, including CAR-T"

Click here to read the full article

Updated Linvoseltamab Pivotal Data Demonstrated Strong Rates and Depth of Response in Patients with Heavily Pre-Treated Multiple Myeloma

"Updated Linvoseltamab Pivotal Data Demonstrated Strong Rates and Depth of Response in Patients with Heavily Pre-Treated Multiple Myeloma"

Click here to read the full article

European Commission Approves Pfizer's ELREXFIO® for Relapsed and Refractory Multiple Myeloma

Click here to read the full article

Molecules

talquetamab

linvoseltamab

elranatamab

blood or bone marrow
bone marrow from patients
Annual Meeting
lines of therapy
bispecific antibody
today announced
Health Care

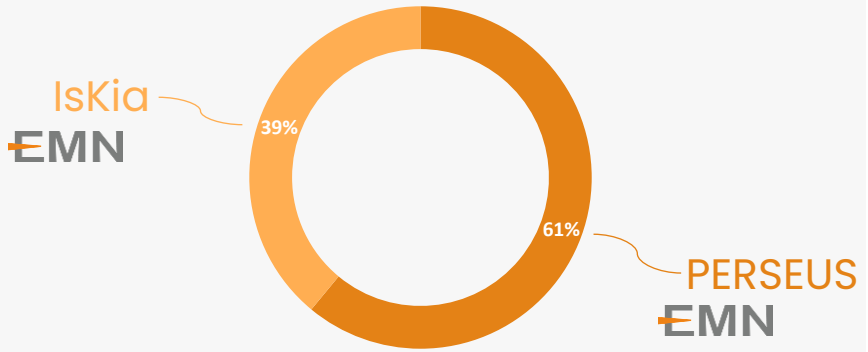
Phase II N= 503 mentions
Social media listening period: December 2023
Scope: worldwide in English

Drugs in clinical trials (Phase III) monitored during the listening period

Sponsor	Trial name + link (ctrl + right click)	Line of treatment	Combination/Monotherapy being studied	Note
AbbVie	Bellini	RR	venetoclax, bortezomib, dexamethasone	
	CANOVA	RR	venetoclax, dexamethasone	
Celgene	DETERMINATION	RR	lenalidomide, bortezomib, dexamethasone	
	KarMMa-3	RR	Monotherapy: Idecabtagene vicleucel	
GSK	DREAMM-3	RR	Monotherapy: belantamab mafodotin	
	DREAMM 7	RR	belantamab mafodotin, bortezomib and dexamethasone	
	DREAMM 8	RR	belantamab mafodotin Plus pomalidomide and dexamethasone	
Janssen	AURIGA	Maintenance	daratumumab, lenalidomide	
	CARTITUDE-4	RR	Monotherapy: ciltacabtagene autoleucel	
	CASTOR	RR	daratumumab, bortezomib, dexamethasone	
	MAIA	1L	daratumumab, lenalidomide, dexamethasone	
	MajesTEC-3	RR	teclistamab, daratumumab Subcutaneously (SC) (Tec-Dara)	
	POLLUX	RR	daratumumab, lenalidomide, and dexamethasone	
Karyopharm	BOSTON	RR	selinexor, bortezomib,, dexamethasone	
Oncopeptides	OCEAN	RR	Monotherapy: melphalan flufenamide	
Pfizer	MagnetisMM-5	RR	Monotherapy: elranatamab or doublet therapy with daratumumab	
Sanofi	ICARIA-MM	RR	isatuximab, pomalidomide, dexamethasone	
	IKEMA	RR	isatuximab, carfilzomib And dexamethasone	
Takeda	TOURMALINE-MM1	RR	ixazomib, lenalidomide, dexamethasone	
	TOURMALINE-MM2	1L	ixazomib, lenalidomide, dexamethasone	
Other	ATLAS	Maintenance	lenalidomide, carfilzomib, dexamethasone	Sponsor: University of Chicago
	DRAMMATIC	/	lenalidomide, daratumumab	Sponsor: SWOG Cancer Research Network
	EQUATE	1L	daratumumab, bortezomib, lenalidomide and dexamethasone	Sponsor: ECOG-ACRIN Cancer Research Group
	Myeloma XI	1L	cyclophosphamide, dexamethasone plus lenalidomide with or without carfilzomib	Sponsor: University of Leeds
	IsKia	1L	isatuximab, lenalidomide, carfilzomib, dexamethasone	Sponsor: European Myeloma Network
	PERSEUS	1L	daratumumab, bortezomib, dexamethasone, lenalidomide	Sponsor: European Myeloma Network

Phase III 1L Quadruplet Therapies: Daratumumab Plus Bortezomib, Lenalidomide, and Dexamethasone (VRd) Outperforms VRd Alone for Multiple Myeloma

Clinical trial mentioned/Sponsor



PERSEUS
Ctrl + click to access clinical trial:
NCT03710603

"A Phase 3 Study Comparing Daratumumab, VELCADE (Bortezomib), Lenalidomide, and Dexamethasone (D-VRd) vs VELCADE, Lenalidomide, and Dexamethasone (VRd) in Subjects With Previously Untreated Multiple Myeloma Who Are Eligible for High-dose Therapy"

IsKia
Ctrl + click to access the clinical trial :
NCT04483739

"Phase III Study of Isatuximab-Carfilzomib-Lenalidomide-Dexamethasone (Isa-KRd) Versus Carfilzomib-Lenalidomide-Dexamethasone (KRd) in Newly Diagnosed Multiple Myeloma Patients Eligible for Autologous Stem Cell Transplantation"

Headlines/Hot off the press

"Daratumumab Plus Bortezomib, Lenalidomide, and Dexamethasone (VRd) Outperforms VRd Alone for Multiple Myeloma"

"First head-to-head comparison supports adding daratumumab to standard frontline regimen"

Click here to read the full article

"Sarclisa® (isatuximab) plus KRd significantly improved rate of minimal residual disease negativity in transplant-eligible patients with newly diagnosed multiple myeloma versus KRd alone"

"Sarclisa® (isatuximab) plus KRd significantly improved rate of minimal residual disease negativity in transplant-eligible patients with newly diagnosed multiple myeloma versus KRd alone"

Click here to read the full article

Combinations

daratumumab + dexamethasone + lenalidomide + bortezomib

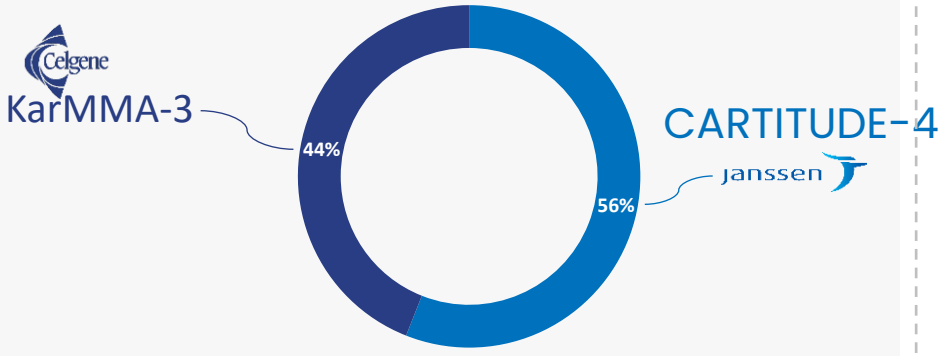
isatuximab + lenalidomide + dexamethasone + carfilzomib

DARZALEX FASPRO based quadruplet
SAN DIEGO
Phase 3
Randomized Study
significant improvement
transplant-eligible multiple myeloma
maintenance regimen
quadruplet induction
study evaluating

Phase III N= 904 mentions
Social media listening period: December 2023
Scope: worldwide in English

Phase III Relapse/Refractory CAR-T : Treatment with CARVYKTI® (ciltacabtagene autoleucel) Resulted in Clinically Meaningful Improvements in Health-Related Quality of Life and Reductions in Disease-Specific Symptoms in Patients with Earlier-Line Multiple Myeloma

Clinical trial mentioned/Sponsor



Headlines/Hot off the press

Treatment with CARVYKTI® (ciltacabtagene autoleucel) Resulted in Clinically Meaningful Improvements in Health-Related Quality of Life and Reductions in Disease-Specific Symptoms in Patients with Earlier-Line Multiple Myeloma

"Oral presentations at the 2023 ASH Annual Meeting including patient-reported outcomes from the CARTITUDE-4 study, and longer-term efficacy and safety data from CARTITUDE-2 study cohorts A and B, show the potential of ciltacabtagene autoleucel in earlier lines of treatment"

Click here to read the full article

Abecma Delivers Sustained Progression-Free Survival Versus Standard Regimens in Earlier Lines of Therapy for Relapsed and Refractory Multiple Myeloma Based on Longer-Term Follow-up from KarMMa-3

"Bristol Myers Squibb today announced results from the preplanned final progression-free survival (PFS) analysis of KarMMa-3, the pivotal Phase 3, open-label, global, randomized controlled study evaluating Abecma (idecabtagene vicleucel) compared with standard combination regimens in adults with relapsed and refractory multiple myeloma after two to four prior lines of therapy, including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 monoclonal antibody (triple-class exposed), who were refractory to their last regimen. "

Click here to read the full article

CARTITUDE-4
Ctrl + click to access clinical trial: NCT04181827

"A Study Comparing JNJ-68284528, a CAR-T Therapy Directed Against B-cell Maturation Antigen (BCMA), Versus Pomalidomide, Bortezomib and Dexamethasone (PVd) or Daratumumab, Pomalidomide and Dexamethasone (DPd) in Participants With Relapsed and Lenalidomide-Refractory Multiple Myeloma"

Molecules

ciltacabtagene autoleucel

KarMMA-3
Ctrl + click to access the clinical trial : NCT03651128

"Efficacy and Safety Study of bb2121 Versus Standard Regimens in Subjects With Relapsed and Refractory Multiple Myeloma (RRMM) (KarMMa-3)"

idecabtagene vicleucel

blood or bone marrow
bone marrow from patients

Annual Meeting

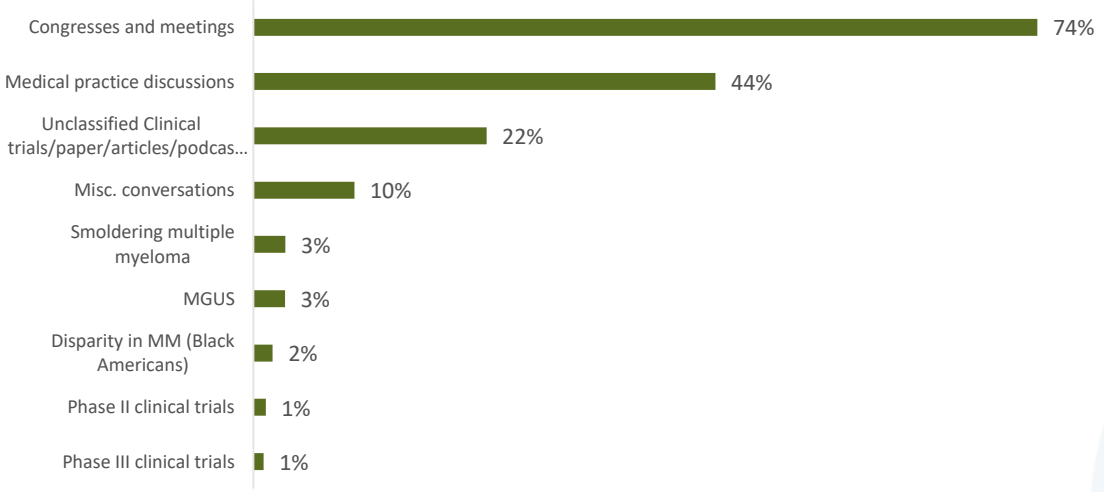
prior lines of therapy

Dienstag 12 Dezember 2023
ASH 2023

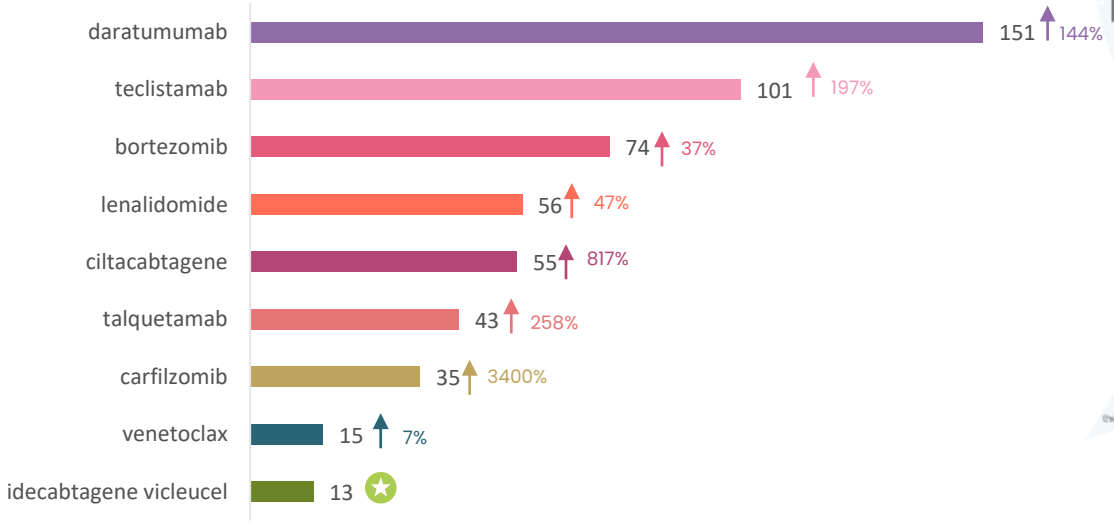
Phase III N= 483 mentions
Social media listening period: December 2023
Scope: worldwide in English

This month, the 65th edition of ASH took centre stage in HCPs conversation.

SOV topics of conversations



SOV molecules



HCPs conversation MM N= 2 587 mentions
Social media listening period: December 2023
Scope: worldwide in English

**Variation of volume compared to previous month*

**emerging*

Focus on **ASH 2023**

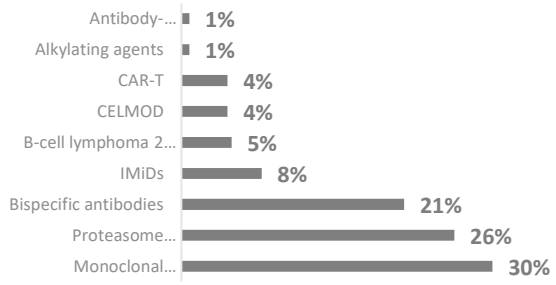
This year's ASH edition saw the **overall top three most discussed clinical trials** being about multiple myeloma, MGUS and smoldering multiple myeloma.

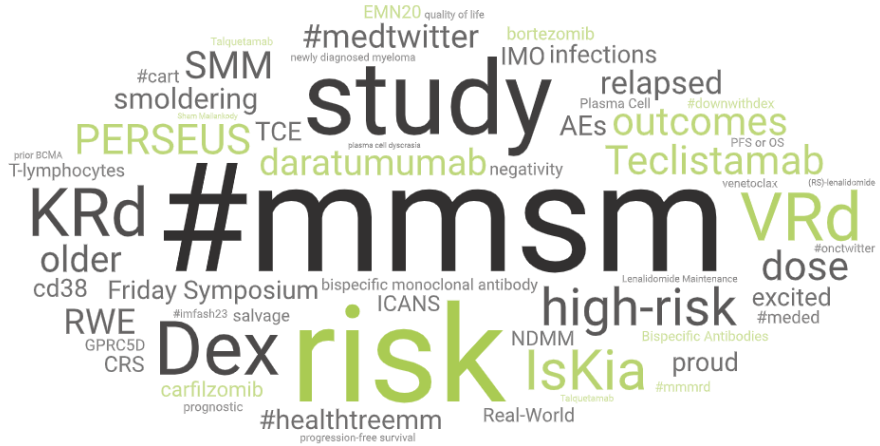
Of note, the encouraging results from the **PERSEUS and IsKia** trials for newly diagnosed patients using quadruplet therapies.

Volume of mentions

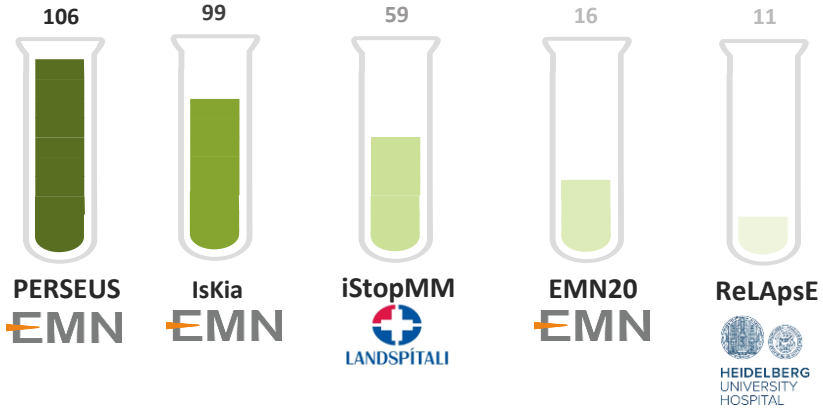
ASH 2023
2,463 mentions

Topics of discussions (type of treatment)

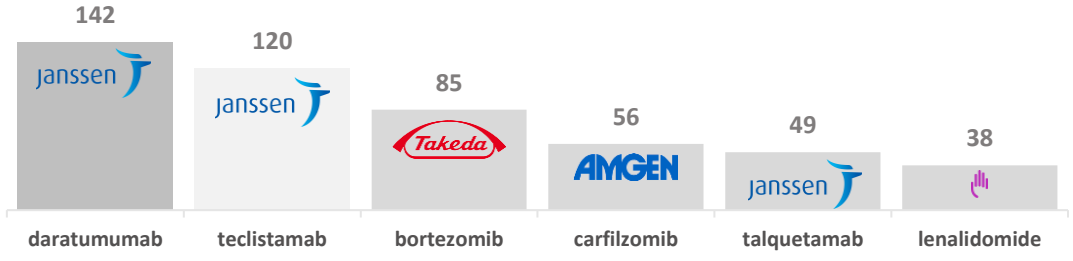




Most mentioned clinical trials



Most mentioned molecules



Top posts from HCPs per engagement

Aaron Goodman - "Papa Heme"
@AaronGoodman33

ASH Plenary

4 active drugs in myeloma makes more patients MRD negative then 3. Groundbreaking.

I won't be in attendance but my question would have been "why not add teclistamab after IsaKRd" to make even more patients MRD negative.

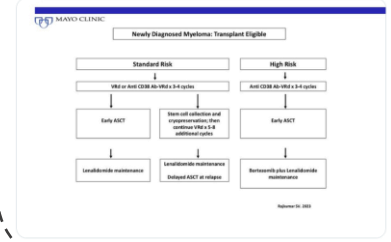
#ASH23

Vincent Rajkumar
@VincentRK

Updated treatment approach to newly diagnosed myeloma based on new #ASH23 data.

Explanation for changes in thread. #MedTwitter 1/

Traduire le post



Manni Mohyuddin
@ManniMD1

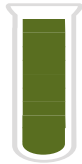
How to treat myeloma after #ASH23

-don't treat high risk smoldering
-do quads for transplant eligible (but no cd38 maintenance afterwards)
-don't do quads or carfilzomib in newly diagnosed frail/older patients
-don't do a salvage auto no matter how good the first auto was

HCPs universe ASH 2023 N= 11,045 mentions
Listening period: December 2nd, 2023, to December 19th, 2023

Focus on the **PERSEUS** clinical trial: the most mentioned clinical trial during ASH 2023, the PERSEUS clinical trial showed increased progression-free survival with the addition of daratumumab to VRd (bortezomib, lenalidomide, and dexamethasone).

106 mentions



PERSEUS
EMN

Results from the **PERSEUS** showed PFS at 48 months of 84,3% compared to 67,7% in the VRd group. The trial also showed improved CR and MRD negativity rates that increase and are sustained over time.

Spontaneous reaction was positive with online HCPs deeming the quad therapy a **new standard of care**. Aspects and remarks highlighted by HCPs include:

- Doubts expressed about the VRd dosing used in the study and suggestion to use an **alternative regimen**, most notably for velcade amongst other adjustments.
- Questions were raised about the costs associated with adding daratumumab to VRd and subsequently its **reimbursement.**
- Doubts about the necessity to use daratumumab during **maintenance**.
- **Renewed confidence** towards **bortezomib** as the safest proteasome inhibitors for newly diagnosed patients due to data on toxicity.

Rémy Duléry
@RemyDulery

#ASH23 Late-breaking abstract
LBA-1 - Pieter Sonneveld et al.

Important results of the PERSEUS trial just published @NEJM

These randomized phase 3 results support D-VRd followed by D-R maintenance as a new standard of care for transplant-eligible patients with NDMM.
@Mohty_EBMT

Raj Chakraborty
@rajshekharucms

PERSEUS ➡️ Important to note that NO signal for increased early mortality from toxicity with Dara-VRd compared to VRd. OS curves trending in the right direction (similar to CASSIOPEIA)! These data further prove that V is probably the safest PI for most ND pts!
#ASH23

Rafael Fonseca MD · Dec 12, 2023
@Rfonsi1 · **Follow**
Replying to @Rfonsi1
This makes QUADs, in this case Daratumumab-RVD, the new standard of care. Now that lenalidomide and bortezomib are generic, advocacy (global) needs to be made to have payers cover daratumumab.

Mateo Mejia
@mmejia91

It looks great! But I hope nobody does the Dex 40mg d1-4 weekly as it was done in PERSEUS. Also not sure if the design can actually inform on Dara maintenance relevance, which cassiopeia suggest is not necessary but used a diferent dosing schedule #ash23

Rafael Fonseca MD @Rfonsi1 · 12 déc. 2023
Congrats to all investigators, @JanssenUSOncMed and everyone involved.

PS
- In clinical practice I would recommend to use weekly Velcade
- Could be changed to K
- Lower stem cell collection but sufficient
- MRD 10-6 should be new standard.

Rahul Banerjee, MD, FACP
@RahulBanerjeeMD

#ASH23 a point I had totally missed - thanks @mmejia91!

For those implementing GRIFFIN or PERSEUS for #MMsm, we suggest GRIFFINDOR (named by @GKaurMD):

👉 Dara per label
👉 V D1,8,15 (I sometimes drop D8 dose once in VGPR)
👉 R 21/28 days
👉 dex 20mg once-weekly to off

PERSEUS universe N= 106 mentions
Listening period: December 2nd, 2023, to December 19th, 2023

Focus on the **IsKia** clinical trial: encouraging results that pairs isatuximab with carfilzomib, lenalidomide and dexamethasone with the trial meeting its MRD endpoint

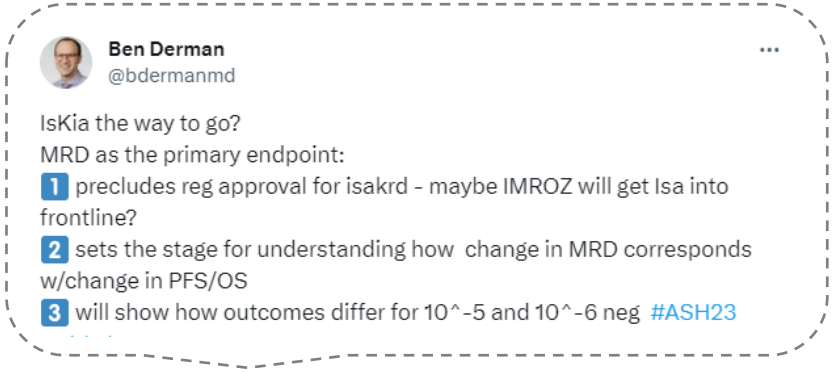
99 mentions

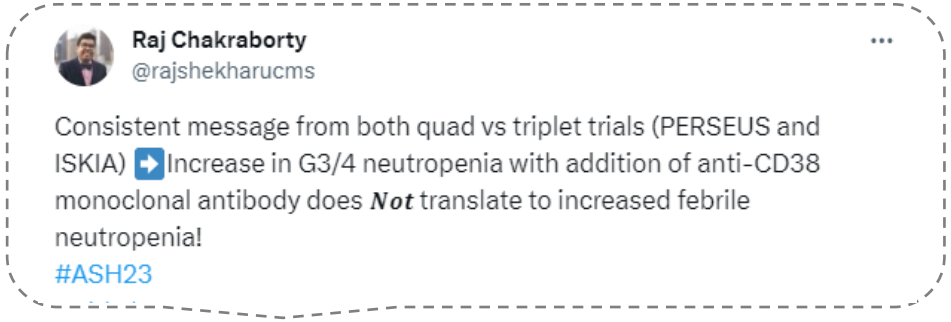
IsKia
EMN

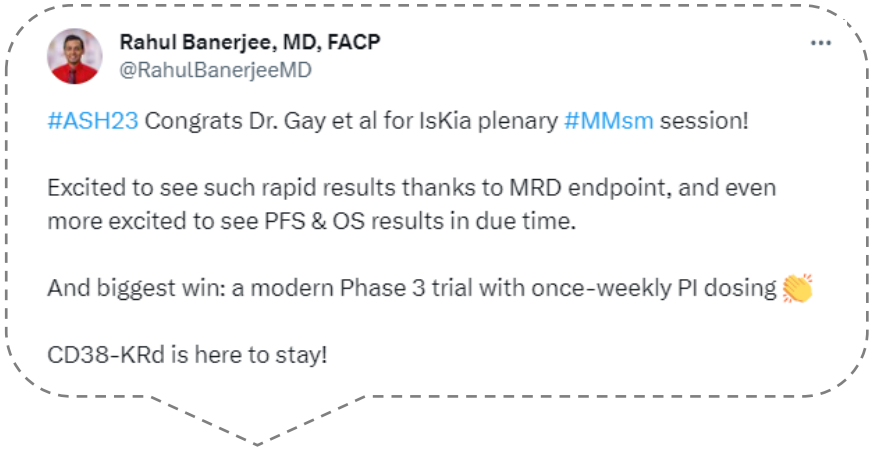
MRD rates improved over time (post-induction, post ASCT and post-consolidation) for patients under Isa-KRd compared to patients under KRd however further analysis is necessary to draw final conclusions.

Aspects and remarks highlighted by HCPs include:

- The combination ISA-KRD **cannot be considered for approval** with MRD as an endpoint. There is therefore an expectation for further exploration of the combination using PFS as an endpoint.
- However, the trial setup **opens up new possibilities** for understanding more precisely how MRD relates to PFS and OS.
- Of note encouraging results when it comes to **side effects** like febrile neutropenia not being increased with quadruplet therapy such as Isa-KRD.







IsKia universe N= 99 mentions
Listening period: December 2nd, 2023, to December 19th, 2023

Focus on the **iStopMM** clinical trial: The **iStopMM** trial (Iceland Screen, Treats, or Prevents Multiple Myeloma), described as the largest scientific study conducted in Iceland, aim is to study the overall survival of individuals with MGUS receiving follow-up compared to those not receiving any follow-up within the study after 5 years of follow-up.

59 mentions

LANDSPÍTALI

The data presented this year was focused on the psychological well being of the population enrolled in the IStopMM trial amongst other investigations. No evidence of increased levels of depression or anxiety or decreased levels of life satisfaction in the context of the trial.

Malin Hultcrantz MD PhD
@MalinHultcrantz

Screening fundamentally changes the face of myeloma - @SaemundurMD presenting on outcomes of @iStopMM. Early diagnosis and no negative impact on QoL #ASH23 #mmsm

Other development of note that were discussed about IStopMM:

Revision in the definition of **free light chain** in MGUS as a marker of disease evolution. This could help decrease the rate of false positive diagnosis of LC-MGUS by more than 80%.

Mateo Mejia
@mmejia91

New sFLC based on @iStopMM. Using current reference ranges there was a high rate (as high as ~40% for KLC), and there was a significant reduction in the number of patients diagnosed with LC-MGUS (~80%), with no lymphoproliferative dx on f/u (although 3.5yr only) #ASH23 #mmsm

Ajay Major, MD, MBA
@majorajay

10. 214 @SaemundurMD: PROs from iStopMM MGUS screening. Compared to pts not notified of MGUS (Arm 1), pts who underwent surveillance did not have different PHQ-9, GAD-7 or life satisfaction. Provocative! All pts consented which may affect QOL. #mmsm #ASH23 ashpublications.org/blood/article/...

Andrew Yee, MD
@andrew02114

Great, practical study presented at #ASH23 by @thorirlong from iStopMM that proposes a revised Binding Site free light chain ratio that is shifted up from 0.26-1.65 to e.g. 0.44-2.16 in patients <70 ash.confex.com/ash/2023/webpr...

Rahul Banerjee, MD, FACP
@RahulBanerjeeMD

10/ #ASH23 #244 and now to MGUS! Excellent work by @SaemundurMD et al:

If done right à la @iStopMM, MGUS screening with good follow-up plan actually associated with ⬇️ anxiety.
(Not the prevailing opinion in some pockets of #MMsm Twitter...)

ash.confex.com/ash/2023/webpr...

IStopMM universe N= 59 mentions
Listening period: December 2nd, 2023, to December 19th, 2023

Two posts around how to treat multiple myeloma and cancer in general were the most retweeted and liked this month.

As he often does around congresses, Dr Rajkumar offered an updated view on how he treats multiple myeloma and more particularly newly diagnosed patients.

Dr Goodman posted about the importance of observing disease progression when it comes to treatment choice. This post garnered numerous answers from fellow HCPs agreeing or offering their caveats when treating patients.

Dr Prasad shared a video of a discussion with fellow HCPs on the recent revelation that CAR-Ts might be linked to cancer.

Most engagement

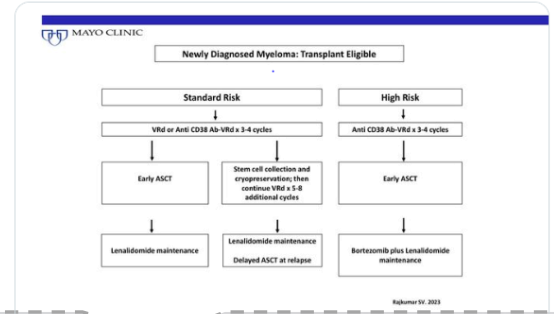
Most retweeted, liked and replied to (Ctrl + right click to access tweets)

Vincent Rajkumar
@VincentRK

Updated treatment approach to newly diagnosed myeloma based on new #ASH23 data.

Explanation for changes in thread. #MedTwitter 1/

Traduire le post



Aaron Goodman - "Papa Heme"
@AaronGoodman33

How I treat "cancer".

Asymptomatic CLL = observe
Asymptomatic follicular lymphoma = observe Asymptomatic marginal zone = observe
Asymptomatic mantle cell = observe
Asymptomatic MDS = observe
Asymptomatic hairy cell = observe
Asymptomatic (smoldering) myeloma = observe

6:14 PM · 26 déc. 2023 · **118,2 k** vues

Vinay Prasad MD MPH
@VPrasadMDMPH

Souscrire

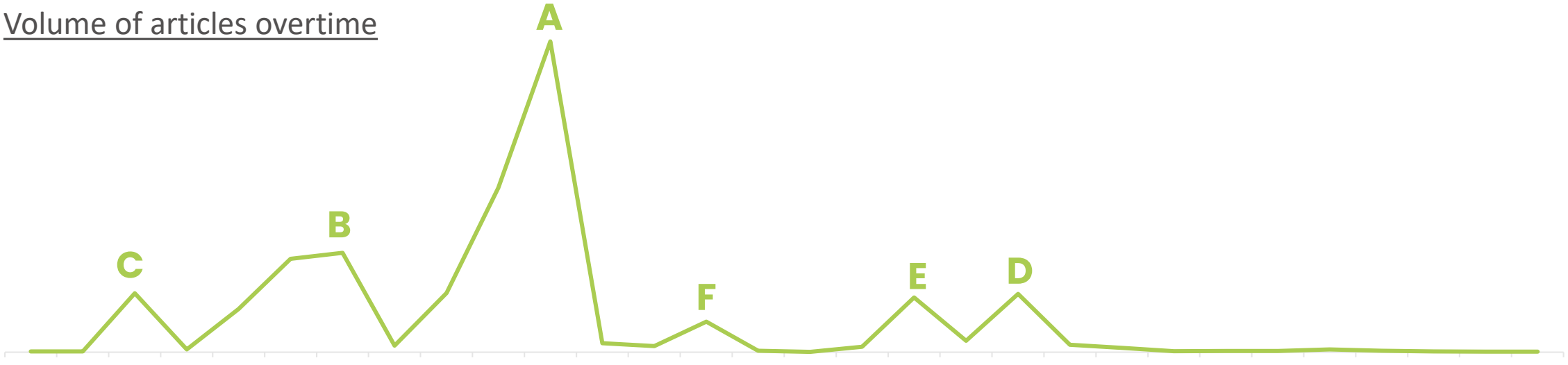
BREAKING: Cilta-cel CAR T linked to Myeloid cancers at high (10/97) rate!
@ManniMD1 @rajshekharucms @AaronGoodman33 and I discuss on X-mas eve
implications for pts, and ongoing trials
#mmsm

Traduire le post

HCPs conversation MM N= 2 587 mentions
Social media listening period: December 2023
Scope: worldwide in English

Media (press releases): volume and articles per peak

Volume of articles overtime



A "Daratumumab Plus Bortezomib, Lenalidomide, and Dexamethasone **(VRd) Outperforms VRd Alone** for Multiple Myeloma" Link

"**Bristol Myers Squibb** Announces Data at ASH 2023 from Diverse Multiple Myeloma Pipeline, **Underscoring Range of Tailored Treatment** Approaches to Address Unique Patient Need**s**" Link

"**Harpoon Therapeutics Presents HPN217 Phase 1 Clinical Data** in Relapsed/Refractory Multiple Myeloma (RRMM) at ASH 2023 and Announces Selection of Recommended Phase 2 Dose (RP2D)" Link

"**Abecma Delivers Sustained Progression-Free Survival** Versus Standard Regimens in Earlier Lines of Therapy for Relapsed and Refractory Multiple Myeloma Based on Longer-Term Follow-up from **KarMMa-3**" Link

A Continued "Patient-Reported Outcomes from the **CARTITUDE-4** Study Showed Clinically **Meaningful Improvements in Health-Related Quality of Life and Reductions in Multiple Myeloma Symptoms** Following Treatment with CARVYKTI® (ciltacabtagene autoleucel)" Link

"New Analyses Demonstrate **Versatility and Continued Efficacy of TALVEY® (talquetamab)** in the Treatment of Patients with Relapsed or Refractory Multiple Myeloma" Link

"**Gracell Biotechnologies** Presents Updated Clinical Data from **FasTCAR-T GC012F** Demonstrating **Deep and Durable Responses** in Newly Diagnosed Multiple Myeloma at ASH 2023" Link

"**C4 Therapeutics** Announces Positive Data from **CFT7455 Phase 1** Trial in Relapsed/Refractory Multiple Myeloma" Link

A Continued "**IASO Bio and Innovent** Present New Data of **FUCASO® (Equecabtagene Autoleucel)** for Multiple Myeloma Patients in Oral Presentation at ASH 2023" Link

B "**European Commission Approves** Pfizer's **ELREXFIO®** for Relapsed and Refractory Multiple Myeloma" Link

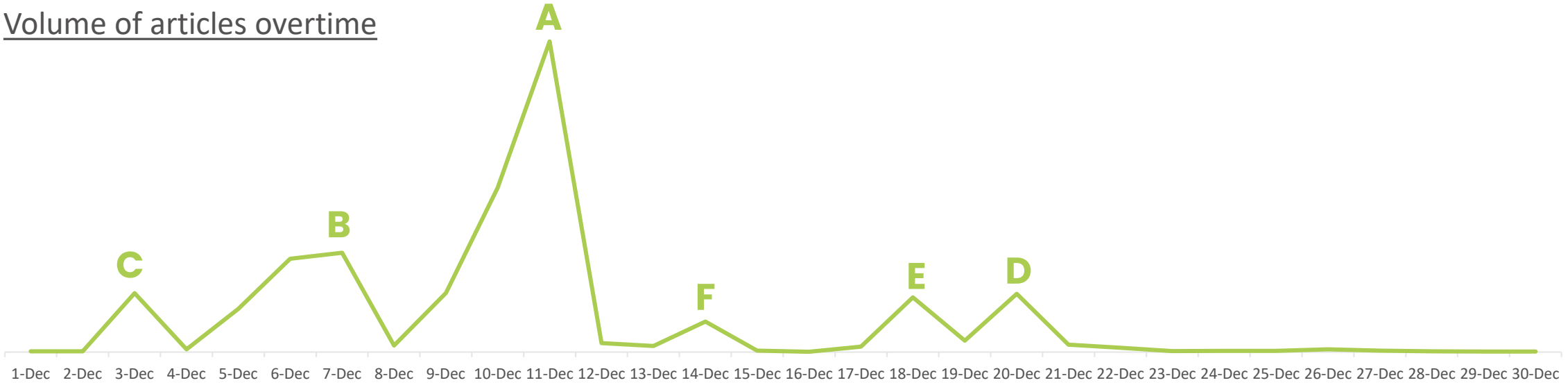
"**Arcellx** Announces Continued Robust Long-Term Responses from Its **CART-ddBCMA (anito-cel) Phase 1 Expansion Trial** in Patients with Relapsed or Refractory Multiple Myeloma at ASH" Link

"SkylineDx Presents Pioneering **Data at ASH 2023: SKY92 Risk Stratification** in Multiple Myeloma Patients" Link

Media (press release, excluding financial news) N= 4 385 mentions
Social media listening period: December 2023
Scope: worldwide in English

Media (press releases): volume and articles per peak

Volume of articles overtime



C "**K36 Therapeutics** Announces Presentation on **KTX-1001** for Relapsed and Refractory Multiple Myeloma at the 65th American Society of Hematology (ASH) Annual Meeting" Link

"**CARsgen's CT071** Received **IND Clearance** from the **FDA** for Treating Relapsed/Refractory Multiple Myeloma or Relapsed/Refractory Primary Plasma Cell Leukemia" Link

D "How one patient with multiple myeloma and his caregiver navigated stem cell transplant" Link

E "**NCCN** Announces **Funding for Research** on Multiple Myeloma Treatment" Link

"**Galapagos** announces start of **PAPILIO-1 Phase 1/2** multiple myeloma study of point-of-care manufactured BCMA CAR-T candidate, GLPG5301" Link

"Six little-known warning signs of multiple myeloma after death of Max Payne actor James McCaffery" Link

"Addressing Unmet Needs in Relapsed/Refractory Multiple Myeloma" Link

F "**EMA** CONFIRMS RECOMMENDATION FOR **NON-RENEWAL** OF AUTHORISATION OF MULTIPLE MYELOMA MEDICINE **BLENREP**" Link

"**Ide-Cel** Wins **Japanese Approval** in Early Relapsed/Refractory Multiple Myeloma" Link

"Use of **Elranatamab for Black Patients** With Multiple Myeloma" Link

"New class of drug shows promise in last line multiple myeloma" Link

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Articles per theme

Approvals and non renewals

- "**European Commission Approves** Pfizer's **ELREXFIO®** for Relapsed and Refractory Multiple Myeloma" Link
- "**EMA** CONFIRMS RECOMMENDATION FOR **NON-RENEWAL** OF AUTHORISATION OF MULTIPLE MYELOMA MEDICINE **BLENREP**" Link
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ASH 2023

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ASH 2023

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- "**Harpoon Therapeutics Presents HPN217 Phase 1 Clinical Data** in Relapsed/Refractory Multiple Myeloma (RRMM) at ASH 2023 and Announces Selection of Recommended Phase 2 Dose (RP2D)" Link
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Articles per theme

CAR-T

- "**Galapagos** announces start of **PAPILIO-1 Phase 1/2** multiple myeloma study of point-of-care manufactured BCMA CAR-T candidate, GLPG5301" Link

Bispecific Antibody

- "**NCCN** Announces **Funding for Research** on Multiple Myeloma Treatment" Link

HCPs life

- "Addressing Unmet Needs in Relapsed/Refractory Multiple Myeloma" Link

Patient life

- "Use of **Elranatamab for Black Patients** With Multiple Myeloma" Link
- "How one patient with multiple myeloma and his caregiver navigated stem cell transplant" Link

MonoDA degrader

- "**C4 Therapeutics** Announces Positive Data from **CFT7455 Phase 1** Trial in Relapsed/Refractory Multiple Myeloma" Link

p300/CBP inhibitor

- **"New class of drug** shows promise in last line multiple myeloma" Link

Media (press release, excluding financial news) N= 4 385 mentions
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Drug Market Watch

December 2023

厚生労働省
ひと、くらし、みらいのために
Ministry of Health, Labour and Welfare

"**Ide-Cel** Wins **Japanese** Approval in Early Relapsed/Refractory Multiple Myeloma Link"

中華人民共和國澳門特別行政區政府入口網站
Government Portal of Macao Special Administrative Region of the People's Republic of China

"Antengene Announces **XPOVIO®** Regulatory Approval in **Macau** for the Treatment of Relapsed and/or Refractory Multiple Myeloma Link"

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

"**EMA** confirms recommendation for non-renewal of authorisation of multiple myeloma medicine **Blenrep** Link"

European Commission

"**European Commission Approves** Pfizer's **ELREXFIO®** for Relapsed and Refractory Multiple Myeloma Link"