

TREOSULFAN IN HSCT

Abstracts

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Dear Reader,

We are excited to share with you the latest findings presented at the EBMT Congress held from March 22nd to March 25th 2026 in Madrid. This year's congress showcased numerous studies on Treosulfan in both pediatric and adult patients.

Beyond these presentations, many other fascinating abstracts were presented, offering valuable insights into the use of Treosulfan. We hope you find this brochure both informative and enjoyable.

Best regards from Wedel,

Yours

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Abbreviations

a/cGvHD	Acute/Chronic graft-versus-host disease
(S)AE	(Severe) Adverse event
ALL	Acute lymphoblastic leukemia
allo	Allogeneic
AML	Acute myeloid leukemia
ATG	Anti-thymocyte globulin
AYA	Adolescents and young adults
Bu	Busulfan
BW	Body weight
CED	Cyclophosphamide equivalent dose
CGD	Chronic granulomatous disease
CI	Confidence interval or cumulative incidence
CID	Combined immunodeficiency
CIF	Cumulative incidence of failure
CIR	Cumulative incidence of relapse
CR	Complete response
CSA	Ciclosporin A
CTCAE	Common terminology criteria for adverse events
Cy	Cyclophosphamide
d	Day
DFS	Disease-free survival
DRI	Disease risk index
EBV	Epstein-Barr virus
EFS	Event-free survival
ES	Ewing sarcoma
FB	Fludarabine, Busulfan
Flu	Fludarabine
FT	Fludarabine, Treosulfan
FTT	Fludarabine, Treosulfan, Thiotepa
f-up	Follow-up
FTTA	Fludarabine, Treosulfan, Thiotepa, ATG
GF	Graft failure
GRFS	GvHD-free, relapse free survival
GSFS	GvHD, SCD-free survival
Gy	Gray
HG	Hypogonadism
HHV	Human herpesvirus
HLA	Human leukocyte antigen
HLH	Haemophagocytic lymphohistiocytosis
HR	Hazard ratio
HSCT	Hematopoietic stem cell transplantation
IEI	Inborn errors of immunity
IFI	Invasive fungal infection
IQR	Inter quartile range
IVIG	Intravenous immunoglobulin
MAS	Macrophage activation syndrome
MC	Mixed chimerism
MDS	Myelodysplastic syndrome
Mel	Melphalan
MFD	Matched family donor
MMUD	Mismatched unrelated donor
mo	Month
MPN	Myeloproliferative neoplasm
MRD	Matched related donor
MSD	Matched sibling donor
MTX	Methotrexate
MUD	Matched unrelated donor
NB	Neuroblastoma
NBS	Nijmegen breakage syndrome
NRM	Non-relapse mortality
OR	Overall response
OS	Overall survival
PBSC	Peripheral blood stem cells
PFS	Progression-free survival
PR	Partial response
ppx	Prophylaxis
PRES	Posterior reversible encephalopathy syndrome
PTCy	Post-transplant cyclophosphamide
pt(s)	Patient(s)
RCC	Refractory cytopenia of childhood
RFS	Relapse-free survival
RI	Relapse incidence
RIC	Reduced intensity conditioning
RR	Relapse rate
SCD	Sickle cell disease
SCID	Severe combined immunodeficiency
SFS	SCD-free survival
SOS	Sinusoidal obstruction syndrome
TBI	Total body irradiation
TDT	Transfusion-dependent thalassemia
TFS	Thalassemia-free survival
TM	Thalassemia major
TMR	Toxic mortality
Treo	Treosulfan
TRM	Transplant-related mortality
TT	Thiotepa
URD	Unrelated donor
VHR	Very high risk
VOD	Veno-occlusive disease
VP	Etoposide
y	Year

Pediatric Patients

Improved engraftment following a Treosulfan-Fludarabine conditioning regimen compared to Thiotepa-Fludarabine in patients with refractory cytopenia of childhood

Paed3-05
Oral presentation

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Study design	Multicenter retrospective cohort analysis (2007-2024)	**Aim**	To compare outcomes in RCC pts conditioned with Thio-Flu vs. Treo-Flu, after observing high graft failure rates with Thio-Flu
Outcome parameters	OS, GF, mod/sev cGvHD, cGRFS, RR		
Patients	373	**Median age (range)***	10.4 y (0.8-22.8)
Indication	Refractory cytopenia of childhood (RCC)		
Conditioning regimens	Thio-Flu (n=239) or FT (n=134)		

Results*	Thio-Flu	FT	p-value
5 y OS	0.94 (0.91-0.97)	0.96 (0.92-1.00)	Not specified
GF	0.17 (0.13-0.23)	0.09 (0.04-0.21)	<0.01
cGvHD mod/sev	0.16 (0.12-0.22)	0.08 (0.04-0.141)	0.03
cGRFS	0.74 (0.68-0.80)	0.84 (0.75-0.93)	<0.01
RR Thio-Flu vs FT	2.04, p<0.01		
RR MMUD vs MUD	1.76, p=0.03		
RR MSD vs MUD	1.07, p=not specified		
neg RR CMV pos vs CMV	1.64, p=0.04		
	• MSD-HSCT: ATG showed no benefit • Higher-dose ATG worsened outcomes (GF, cGvHD) in unrelated HSCT with Thio-Flu.		
Conclusions	• Although both regimens offered excellent OS for pts with RCC. FT regimen resulted in superior engraftment and lower rates of cGVHD. • Serotherapy provided no benefit in MSD-HSCT and a higher-dose ATG adversely affected outcomes in unrelated HSCT with Thio-Flu likely through impaired immune reconstitution.		

*Numbers differing from abstract were based on talk presented at conference.

Treosulfan-based reduced-toxicity conditioning in children with inborn errors of immunity: report of retrospective study from a single center in Canada

Paed4-07
Oral presentation

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Study design	Retrospective study (2016-2025)	**Aim**	To assess outcomes and survival with Treo-based conditioning in children with IEI.
Outcome parameters	OS, TRM, acute and chronic complications, chimerism, immune reconstitution, IVIG independence, vaccine response		
Patients	94	**Median age (range)**	2 y (2 mo-17 y)
Indications	IEI (HLH, SCID, CGD, CID, and other IEI disorders)		
Conditioning regimens*	Treo-based conditioning regimen + ATG: Treo/Flu/Cy (n=79), FT (n=14), FTT (n=1)		
Results*			
OS	91%		
Survival rates	83% in SCID, 85% in HLH, and 91% in CGD groups		
Death	8 pts		
aGvHD	51% (grade III-IV 6.8%)		
cGvHD	41% (severe 4%)		
VOD	3.6% (3/86)		
Chimerism	51% (full donor chimerism), 48% (MC)		
IVIG	94% were off IVIG		
Conclusions	• The results demonstrate excellent outcome with reduced transplant mortality, lower VOD rates, acceptable GVHD rates, and IVIG independence in IEI children receiving Treo-based conditioning.		

Gonadal function of children and adolescents after allogeneic HSCT with Treosulfan- and TBI-based conditioning

A423
Poster presentation

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Study design	Retrospective, single center observational study	**Aim**	To evaluate gonadal function in children after allogeneic HSCT.
Outcome parameters	Gonadal function, CI of hypogonadism (HG), graft rejection, relapse, a/cGvHD, impact of cumulative alkylating agent exposure		
Patients*	185	**Median age (range)**	13.5 y (8.2-18.3)
Indications	Various diagnoses (B-/T-ALL, acute bilineal leukemia, lymphoma; AML, myelodysplastic syndrome; non-malignant disorders (aplasia, thalassemia, primary immunodeficiencies))		
Conditioning regimens*	Additional conditioning agents: Flu 150mg/m^2 (in all), TT 10 mg/kg (51.9%)/ Mel 80-140 mg/m^2 (7.6%)/VP 40-60 mg/kg (32.4%), Cy 50-100 mg/kg (8.1%)		

Results*

Median follow-up: 31.4 mo (0–76.9 mo)

Graft rejection and relapses: Rates were similar in both groups (5.7/6.2% and 26.1/29.9%)

Hormones:

Boys:
- Treo: slightly lower gonadotropins
- Median FSH normalized, 3 y
- Testosterone remained within normal range

Girls:
- Elevated FSH, persistently high (both regimens)
- Estradiol levels decreased in both groups

		Boys	Girls
CI of HG		21% (3 y) 34% (4 y)	34% (3 y), 54% (4 y)
Conditioning regimens	Treo	36% (4 y) -	33% (3 y) 33% (4 y)
	TBI	32% (4 y) -	33% (3 y) 61% (4 y)
CED	Treo	0% (low CED)	14% (low CED) 39% (high CED)
	TBI	24% (low CED)	75%

Conclusions*

- The results showed that the effect of Treo on gonadal function in children was less significant than TBI.
- The final gonadotoxicity depends on the combination of Treo with other alkylating agents.
- Directly proportional to the increase in their CED

Impact of recipient age and Cyclosporine A a target level on mixed chimerism after Treosulfan-based matched family donor haematopoietic stem cell transplantation for sickle cell disease

B205
Poster presentation

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Study design	Retrospective, multicentre registry analysis	**Aim**	The aim was to evaluate HSCT outcome for SCD in Germany in recent years across all donor types and conditioning regimens.
Outcome parameters	OS, SFS, GSFS, risk factors for MC		
Patients	146	**Median age (range)**	MFD 9.4 (1.8–19.0) MUD 14.2 (1.7–19.5) MMUD 10.8 (2.5–16.7) Haplo 12.9 (4.3–23.4)
Indication*	SCD		

Conditioning regimens*

	MFD	MUD	MMUD	Haplo	p-value
Pre-conditioning, n (%)					
None	15 (16.1)	0 (0.0)	2 (10.5)	2 (11.8)	0.37
Hydroxyurea +/- other	78 (83.9)	17 (100)	17 (89.5)	15 (88.2)	
Serotherapy, n (%)					
ATG Fresenius	59 (64.1)	8 (47.1)	12 (63.2)	11 (64.7)	<0.001
ATG Thymoglobulin®	32 (34.8)	9 (52.9)	3 (15.8)	0 (0.0)	
Alemtuzumab	1 (1.1)	0 (0.0)	4 (21.1)	6 (35.3)	
Unknown	1	0	0	0	
Conditioning regimens, n (%)					
FT-based	67 (72.0)	11 (64.7)	12 (63.2)	13 (76.5)	0.64
FB-based	20 (21.5)	4 (23.5)	7 (36.8)	3 (17.6)	
Mel-Flu-based	6 (6.5)	2 (11.8)	0 (0.0)	1 (5.9)	
Myeloablation, n (%)					
Normal	88 (94.6)	13 (76.5)	18 (94.7)	16 (94.1)	0.09
Treo 36 g/m^2 +/- TT	5 (5.4)	4 (23.5)	1 (5.3)	1 (5.9)	

Results*	MFD	MUD	MMUD	Haplo	p
4 y OS	98.9%	94.1%	86.8%	100.0%	0.09
4 y GSFS	91.6%	76.5%	81.3%	76.5%	0.09
4 y GSFS	91.6%	64.2%	76.6%	70.6%	0.004
GF	8% (7.3)	3% (17.6)	2% (10.5)	4% (23.5)	0.13
1 y aGvHD grade II-IV	6% (6.5)	7% (41.2)	6% (33.8)	1% (7.1)	<0.001
4 y cGvHD mod/sev	1% (1.1)	3% (18.1)	2% (11.1)	0% (0.0)	0.005
GF higher in Treo-based conditioning (4 y CI, 12.4% vs Bu-based 3.0%)					
Conclusions	• The data confirmed excellent OS across all donor types, but significantly better GSFS after MFD HSCT. • Identified risk factors: Thymoglobulin®, CSA≥150µg/l, age <6 y, reduced myeloablation				

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Treosulfan or Busulfan: Determinants of relapse risk with different conditioning regimen in children with acute Myeloid Leukemia

B216
Poster presentation

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Study design	Retrospective study	**Aim**	Compare post-transplant outcomes in pediatric AML pts receiving BU- vs Treo-based conditioning, specifically evaluating whether Treo reduces toxicity
Outcome parameters	OS, a/cGvHD, EFS, cGRFS, RI and NRM		
Patients	77	**Median age (range)**	9 y (0.5–17)
Indication	Pediatric AML		
Conditioning regimens	BU containing regimens: BuCyMel, BuFlu, BuFluTT and BuCy Treo containing regimen: TreoFluTT and TreoFlu		

Results

Median f-up: 4.3 y (IQR 1.4–8.7)
Engraftment: No significant differences in time (neutrophils/platelet)
a/cGvHD: No significant differences risk

	Bu	Treo	p-value
3 y OS	82.0%	64.6%	0.15
3 y EFS	76.5%	49.1%	0.027
3 y cGRFS	67.6%	44.4%	0.06
3 y RI	12.9%	40.9%	0.009
3 y NRM	10.6%	10.0%	0.945

- Multivariable Cox models: conditioning regimen was not significantly associated with OS (HR 2.09, 95% CI 0.78–5.59; p=0.14).
- Treo was associated with a lower EFS (HR 2.85, 95% CI 1.19–6.83; p=0.019).
- Age and donor type did not show independent associations with outcomes.

Conclusions

- Treo was preferentially used in older children.
- NRM was similar between BU and Treo regimens.
- Pts receiving Treo had a lower EFS due to a higher cumulative incidence of relapse.
- Achieving deep remission before HSCT remains crucial.

Treosulfan-based conditioning regimens are same effective, but less toxic in comparison with Busulfan-based in pediatric solid tumors: results of retrospective analysis from 148 patients

B222
Poster presentation

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Study design	Retrospective, two center study	**Aim**	Description of toxicity and efficacy of autologous HSCT in adolescent pts with neuroblastoma (NB) or Ewing sarcoma (ES).
Outcome parameters	Engraftment, Toxicity, OS, RFS		
Patients	148	**Median age (range)**	5.1 y (8 mo–17 y)
Indications	NB (n=116, 78%) or ES (n=32, 22%)		
Conditioning regimens	Treo/Mel or Bu/Mel Infused dose of CD34+ cells: 7.1x10^6/kg (median)		

Results

	Treo/Mel	**Bu/Mel**	**p-value**
Engraftment	11 d	15 d	-
Mucositis & neutropenia (Grade 3–4)	12%	25%	<0.005
Toxic deaths	n=2 (2.24%)	n=2 (3.4%)	-
2 y OS	78.1%	73.1%	-
2 y RFS	65.3%	59.8%	-

OS and RFS: No statistical difference

No difference between groups: nutrition insufficiency, viral reactivations and hemorrhagic complications.

Conclusions

- Treo/Mel-based conditioning regimen is safe and effective for NB and ES.
- Less organ toxicity was found in Treo group.

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Treosulfan-based conditioning is associated with better outcomes in adolescents and young adults undergoing matched related donor transplantation for thalassemia major

B352
Poster presentation

Mithun Abraham Prakash[1], Uday Kulkarni[1], Sujith Karumuthul[1], Sushil Selvarajan[1], Sharon Lionel[1], Anu Korula[1], Fouzia Na[1], Kavitha M Lakshmi[1], Eunice Sindhuvi[1], Aby Abraham[1], Vikram Mathews[1], Biju George[1]

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Study design	Retrospective (1994-2022)	**Aim**	To compare outcomes of Treo-based vs Bu-based conditioning AYAs (≥12 y) undergoing MRD HSCT for TM
Outcome parameters	OS, TFS, primary and secondary graft failure, a/cGvHD, TRM		
Patients	124	**Median age (range)**	15 y (13-25)
Indications	Thalassemia major undergoing MRD HSCT		
Conditioning regimens	FTT (n=46) BuCy ± ATG (n=73)		

Results*

Median recovery (neutrophil & platelet): 16 d and 21 d

	FTT	BuCy	p-value
Pri & sec Graft Failure	10%	9.1%	1.000
100 d TRM	15%	39.1%	0.002
SOS/VOD	31.5%	54.3%	0.021
Cystitis	2.7%	19.6%	0.003
Grade II–IV aGvHD	34.8%	35%	1.000
cGvHD	14.2%	40%	0.0026
5 y OS	72.2%	54.8%	0.017
5 y Thalas. free survival	70.1%	51.1%	0.018
30 d complete chimerism	92.8%	78.8%	0.023
5 y Lucarelli class III OS	71.9%	52.5%	0.014
5 y Lucarelli class III TFS	69.3%	52.5%	0.029
5 y VHR subset OS	75.2%	40.2%	–

Conclusions

- Treo based conditioning significantly reduces early toxicity and improves long term OS and TFS in AYA pts with TM, including those in high risk subgroups.
- These findings support Treo based conditioning as the preferred regimen for AYA pts.

*Numbers differing from abstract were based on poster presented during conference.

The impact of Treosulfan-based conditioning and integrated follow up improves event free survival in children undergoing HSCT for sickle cell disease

B358
Poster presentation

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Study design	Retrospective study across 3 centers in India and Oman	**Aim**	Retrospective analysis of the impact of Treo-based conditioning in children with SCD.
Outcome parameters	OS, EFS, transplant-related toxicities		
Patients	74	**Median age (range)**	10.5 y (62.2% < 13 y, 37.8% > 13 y)
Indications	Children with SCD		
Conditioning regimens	Treo with Flu and TT with or without serotherapy Haplo-identical transplant group: 2 Gy TBI + plasma exchange and rituximab based on donor-specific antibodies		
Result*s Stem cell source Complications post HSCT f-up 200 mo OS EFS	 13 haplo-identical transplant, 1 MUD, 60 MSD 67.5% PBSC, 31.1% bone marrow, 1.2% cord blood 6 PRES, 3 mixed chimerism, 7 viral reactivations, 7 cGvHD, 9 aGvHD 91.9% 88%		
Conclusions	• Treo-based conditioning is generally well tolerated and effective for children with SCD from different ethnic backgrounds.		

*Numbers differing from abstract were based on poster presented during conference.

Outcomes of allogeneic HSCT in Nijmegen breakage syndrome with Treosulfan-based conditioning regimen - a multicenter study

B371
Poster presentation

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Study design	Multicenter retrospective cohort study (2017–2025)	**Aim**	The aim was to compare efficacy of Treo dose 30 g/m2 vs 21 g/m2 in NBS pts.
Outcome parameters	OS, engraftment, GR, a/cGvHD, organ toxicity, MC, viral infections, leukemia relapse, secondary malignancies		
Patients	40	**Median age (range)**	NBS diagnosis: 5 y (0.05–15.7) HSCT: 7.4 y (0.5–16.2)
Indication	Nijmegen breakage syndrome (NBS)		
Conditioning regimens	Treo30 30 g/m^2: 16 pts Treo21 21 g/m^2: 24 pts All pts received Flu 150 mg/m^2, Cy in most pts (dose varied), serotherapy mainly rabbit ATG, with some pts receiving horse ATG or none		

Results

	Treo30	**Treo21**	**p-value**
Median f-up	8.0 y (4.7-8.8)	2.7 y (0.8-5.3)	<0.001
OS	0.81 (95% CI 0.62-1.0)	0.76 (95% CI 0.56-0.95)	0.7
Engraftment	13.5 d (10-21)	19 d (11-28)	0.009
Organ toxicity	6	8	
aGvHD	0.5 (95%CI 0.31-0.82)	0.63 (95%CI 0.46-0.85)	0.88
cGvHD	0.31 (95% CI 0.15-0.65)	0.25 (95% CI 0.13-0.5)	0.79
Viral infections	0.38 (95% CI 0.2-0.71)	0.38 (95% CI 0.22-0.63)	0.94
Longterm outcome	Treo30: secondary malignancies (2 cases of rhabdomyosarcoma) Treo21: more mixed chimerism and leukemia relapse		

Conclusions

- Both doses of Treo (21 g/m^2 and 30 g/m^2) were well tolerated.
- Lower dose of 21 g/m^2 was associated with higher risk of MC and leukemia relapse vs increased incidence of secondary malignancy after higher dose of 30 g/m^2.

Nurse-led initiative skin care guideline to minimize Treosulfan related skin toxicity among paediatric patients undergoing hematopoietic stem cell transplant in national university hospital, Singapore

NP109
ePoster presentation

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Study design	Retrospective observational study	**Aim**	Evaluation on the effectiveness of a standardized Treo skincare guideline in reducing the incidence and severity of skin toxicity in pediatric pts undergoing allogeneic HSCT.
Outcome parameters	• Incidence and severity of skin toxicity (CTCAE grading) • Distribution of affected body surface area (Lund and Browder chart) • Timing, duration, and resolution of rashes, pruritus, and hyperpigmentation • Need for dermatology referral or additional wound care		
Patients	47	**Median age (range)**	8.27 y
Indications	Pediatric pts undergoing allogeneic HSCT		
Conditioning regimens	Treo-based conditioning regimen, accompanied by a structured skincare protocol.		
Results	• Grade 1–2 erythematous rashes were common (especially skin folds and diaper areas). • Pruritus and rashes peaked on 9–14 d post-HSCT and resolved by 21 d. • No children older than 10 y developed grade 2 skin toxicity. • Hyperpigmentation persisted up to 60 d post-transplant. • No patient required dermatology referral or dressing for skin excoriation.		
Conclusions	• Implementation of the Treo skin-care guideline appears to significantly reduce the severity of skin toxicity in pediatric HSCT recipients.		

Adult Patients

A comparison of Fludarabine Melphalan and Fludarabine Treosulfan for adult acute Lymphoblastic Leukaemia. A study on behalf of the acute leukemia working party of the EBMT

OS08-02
Oral presentation

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Study design	Retrospective study	**Aim**	Evaluate whether FT provides survival and disease control comparable to Flu/Mel in adult ALL undergoing allo-HSCT
Outcome parameters	2 y LFS Secondary endpoints: OS, RI, NRM and GvHD		
Patients	1097	**Median age (range)**	Not reported (adults ≥18 y)
Indication	ALL		
Conditioning regimens	Flu/Mel (876 pts) or FT (221 pts)		

Results*

	Flu/Mel	**FT**
2 y OS	60.9%	64.2%
2 y LFS	50.3%	55.7%
CIR	30.9%	27.1%
NRM	18.8%	17.7%

Conclusions

- In adult pts with ALL undergoing first allo-HSCT, FT conditioning provides survival and disease control outcomes comparable to Flu/Mel
- For FT overall survival and non-relapse mortality, and with improved leukemia-free survival and reduced relapse risk in multivariable analysis were similar to Flu/Mel
- FT is an effective and safe intermediate-intensity conditioning alternative to Flu/Mel in adult ALL

Treosulfan – based conditioning in allogeneic hematopoietic stem-cell transplantation; Long-term follow-up

OS08-07
Oral presentation

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Study design	Retrospective analysis	**Aim**	Evaluate long-term outcomes after FT conditioning in allo-HSCT in various hematologic malignancies
Outcome parameters	OS, NRM, relapse mortality, aGvHD II–IV, aGvHD III–IV, cGvHD, prognostic factors		
Patients	562	**Median age**	57 y (18–76)
Indications	AML (n=176), ALL (n=37), lymphoproliferative diseases (n=185), MDS (n=166), others (n=8)		
Conditioning regimens	Flu + Treo (Treo 10–14 g/m² × 3 d), dosing based on pts/disease characteristics; GvHD ppx: CSA + MTX or MMF; ATG added in URD-HSCT		
Results*			
Median f-up	7 y (0.4-20)		
OS	54% (2 y), 42% (5 y), 38% (10 y), 33% (20 y)		
NRM	22% (2 y) 28% (5 y), 30% (10 y), 35% (20 y)		
Relapse mortality	25% (2 y), 30% (5 y), 32% (10 y), 33% (20 y)		
5 y OS	49% (recent) vs 34% (earlier) p=0.0001		
5 y NRM	23% (recent) vs 34% (earlier) p=0.004		
5 y relapse mortality	28% (recent) vs 33% (earlier) p=0.20		
aGvHD grade II-IV	26%		
aGvHD grade III-IV	9%		
cGvHD	26%		
Conclusions	• Conditioning with Treo shows promising long-term OS across hematologic malignancies. • Treo-based conditioning shows strong anti-malignancy effect and relatively low NRM and GvHD. • Long-term outcome up to 20 y demonstrates substantial cure rate. Late events remain clinically relevant, highlighting importance of extended follow-up.		

Outcomes after standard- vs. reduced-dose Treosulfan in allogeneic hematopoietic cell transplantation

A146
Poster presentation

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Study design	Retrospective cohort study	**Aim**	To improve understanding of dose optimization in FT conditioning
Outcome parameters	OS, CIR, NRM		
Patients	252	**Median age (IQR)**	64.5 y (52.6–67.8) vs 57.7 y (52.1–62.2)
Indications	70% MDS, 15% AML and 15% other diagnoses		
Conditioning regimens	n=173: Treo 3x14 g/m² (42 g/m²) + Flu n=79: Treo 10 g/m² (30 g/m²) + Flu		

Results

	Whole cohort	Treo 14 g/m²	Treo 10 g/m²
1 y OS	87.2%	86.7%	88.4%
3 y OS	77%	77%	76.8%
1 y CIR	15.8%	14.0%	19.3%
3 y CIR	21.4%	18.5%	29.3%
1 y NRM	6.8%	7.3%	4.6%
3 y NRM	8.4%	9.5%	4.6%

Conclusions

- Treo dose adjustment was not associated with differences in overall survival, relapses, or non-relapse mortality.
- Outcomes remained comparable, indicating that reduced-dose Treo may be a viable option for selected patients.

Treosulfan-Fludarabine as a reduced intensity conditioning alternative to Busulfan-Fludarabine for adult allogeneic stem cell transplantation: single-center, early real-life clinical and economical comparative outcomes

A149
Poster presentation

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Study design	Single-center, real-life clinical and economical comparative outcomes after Treo vs Bu	**Aim**	Comparison of early clinical and economical outcomes of pts treated after FB2 vs FT10 conditioning
Outcome parameters	aGvHD, VOD, infections, NRM, RFS, OS		
Patients	FT10 n=35 FB2 n=100	**Median age (range)***	FT10: 60 y (28-73) FB2: 63 y (37-75)
Indications	AML, MDS		
Conditioning regimens	FT10 or FB2		

Results*

	FB2	FT10	p-value
d+100 aGvHD ≥grade 2	13%	14%	0.78
d+100 VOD CIR	3%	0%	1.00
6 mo infections CIR	49%	74%	0.01
6 mo NRM	5.05	5.71	0.56
Median initial hospitalization duration	30.3 d	32.6 d	0.007
6 mo unpl. hospitalization	25%	31%	0.46
Cost initial hospitalization	>70 000€	>80 000€	0.04
Cost unpl. hospitalization	~14 000€	~4 000€	0.04

Conclusions*

- Despite being used in a substantially higher-risk population, FT10 achieved early post-transplant outcomes comparable to FB2.
- These clinical outcomes are accompanied with a lower burden of early post allo-HSCT unplanned healthcare costs (French center).

*Information different from abstract was based on poster presented at conference.

Long-term follow-up with Treosulfan based conditioning regimen in hematological malignancies: a single center experience

B168
Poster presentation

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Study design	Monocentric retrospective analysis (real-world study)	**Aim**	Long-term follow-up with Treo based conditioning regimen
Outcome parameters	OS, Engraftment, aGvHD CI, cGvHD CI, TRM, RI		
Patients	90	**Median age (range)***	57.5 y (4–75)
Indications	Hematological malignancies (AML, MDS, MPN, others)		
Conditioning regimens	Treo-based conditioning (total dose 30–42 g/m^2) + Flu (total dose of Treo: 14 g/m^2 in 66 pts, 12 g/m^2 in 18 pts, and 10 g/m^2 in 6 pts)		
Results*			
OS	71% (1 y), 51% (3 y), 50% (5 y)		
aGvHD CI grade III-IV	30%		
1 y cGvHD CI	9.3% (95% CI 2.2-16.4, 1 y), 26.1% (95% CI 13.2-39.5 y)		
VOD	2 pts		
Engraftment	Median: Neutrophils (20.5 d), platelets (26 d)		
RI	23.9% (1 y), 43.1% (5 y)		
TRM	3.4% (100 d), 21.6% (1 y)		
Conclusions	• Treo offers a manageable safety profile, characterized by low organ toxicity and favorable engraftment kinetics. This is particularly beneficial for older or frail pts, where reduced toxicity is a priority.		

*Information different from abstract was based on poster presented at conference.

Fludarabine plus Treosulfan conditioning for older and comorbid patients before allogeneic HSCT - a retrospective analysis in a real-world cohort

B174
Poster presentation

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Study design	Single-center study	**Aim**	To evaluate the efficacy and safety of RIC using FT in pts with AML undergoing allo-HSCT
Outcome parameters	OS, RI, NRM, aGVHD, cGvHD		
Patients	138	**Median age (range)**	60 y (53–76)
Indications	AML		
Conditioning regimens	• FT30 (Treo 10 g/m² for 3 d, Flu 30 mg/m² for 5 d) • Thio5Treo30Flu (16%) • Thio10Treo30Flu (14%) • TreoFluCy (4%)		
Results*			
Median f-up	15 mo		
OS	81% (1 y), 73% (2 y), 68% (3 y)		
NRM	9.4% (1 y), 12.5% (2 y), 15.6% (3 y)		
RI	17.3% (1 y), 19.3% (2 y), 27% (3 y)		
aGvHD	24% (100 d)		
cGvHD	14% (2 y)		
Conclusions	• FT conditioning demonstrated favorable survival, low relapse and NRM, and low rates of acute and chronic GvHD in older and comorbid AML pts. • Acute GvHD was associated with worse survival, and higher HSCT-CI showed a trend toward poorer outcomes. • The results support FT as an effective and well-tolerated RIC regimen in real-world AML pts undergoing allo-HSCT.		

A favorable efficacy-safety profile: Treosulfan-based conditioning improves overall survival and lowers relapse risk compared to Busulfan in RIC ALLO-HSCT

B175
Poster presentation

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Study design	Monocentric retrospective comparative analysis	**Aim**	Compare RIC regimens containing Bu or Treo
Outcome parameters	OS, GRFS, relapse a/c GvHD rates, NRM		
Patients	90	**Median age (range)**	65.4 y (18.6-74)
Indications*	Myeloid malignancies (myeloid disease (74.4%)		
Conditioning regimens	RIC regimens: FT (FT10): 60% Flu-Bu (FB2): 40%		
Results*			
Median OS	8 mo (FB2) vs 36 mo (FT10), p = 0.011		
GRFS duration	~ four times longer in the Treo group; n.s. p=0.247		
Median GRFS	7.9 mo (FB2) vs 34.9 mo (FT10)		
NRM	No significant differences between groups (p=0.762)		
CIR	Significantly lower for Treo group (p=0.0106),		
a/c & overall GvHD	No significant differences in rates (p=0.145, p=0.525, p=0.579) Differences in the temporal pattern of onset Comparable risk of GVHD associated with both groups		
Conclusions	• Treo-based conditioning demonstrated a favorable balance between efficacy and safety. • In addition, significantly longer overall survival and a reduced risk of relapse were observed compared with Bu, while maintaining similar rates of NRM and GvHD.		

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Fludarabine and Treosulfan Myeloablative conditioning leads to high OS and low NRM

B178
Poster presentation

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Study design	Retrospective, single center	**Aim**	Real world data of myeloablative conditioning regimens based on Flu and Treo (FT14)
Outcome parameters	OS, PFS, GRFS, CIR, NRM, a & cGvHD		
Patients	62	**Median age (range)**	44.5 y (20–63)
Indications	AML (38), MDS (14), other hematological diseases (10)		
Conditioning regimens	Flu 30 mg/m^2 (for 5 d) and Treo 14 g/m^2 (for 3 d)		
Results*			
2 y OS	85% (95% CI 75.9–95.2%)		
2 y PFS	82.6% (95% CI 73.2–93.2%)		
2 y GRFS	67.8% (95% CI 56.7–81%)		
2 y CIR	15.4% (95% CI 7.1–26.6%)		
2 y NRM	1.6% (95% CI 0.1–7.6%)		
d+100 aGvHD	21% (95% CI 11.8–31.8%)		
2 y cGvHD mod/sev	15.9% (95% CI 8.1–26.7%)		
Conclusions	• This study confirms the favorable safety profile and efficacy of FT14 conditioning. • Demonstration of excellent survival, low relapse rates, and low mortality • Relapse remained the main cause of death after transplant. • Long-term toxicity requires further follow-up.		

Comparison of Treosulfan-Thiotepa-Fludarabine vs Fludarabine-Treosulfan conditioning for allogeneic HCT in AML and MDS: a single-center retrospective experience

B181
Poster presentation

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Study design	Retrospective single-center study	**Aim**	Comparison of FT vs FTT conditioning and different Treo dose levels to identify the optimal efficacy–toxicity balance in AML/MDS pts undergoing allo-HSCT.
Primary outcome	OS, PFS, EFS, GRFS, CIR, NRM, a/cGvHD		
Patients	102	**Median age (range)**	59 y (FTT) vs 62 y (FT)
Indications*	AML, MDS, MDS/MPN		
Conditioning regimens	FT: Flu + Treo FTT: Thio + Treo + Flu Treo doses: 10, 12, 14 g/m² (for 3 d)		

Results

	FT	FTT	p-value
1 y OS	86%	85%	>0.05
1 y PFS	81%	73%	>0.05
1 y GRFS	44%	56%	>0.05
1 y CIR	7%	20%	0.04
1 y EFS	80%	61%	0.06
Neutrophil engraftment	13 d	18 d	<0.001
Mucositis (any grade)	36%	61%	0.01
Mucositis ≥ grade III	2%	28%	0.01
NRM	13%	8%	0.46
aGvHD, grade III–IV	8%	3%	0.40
cGvHD	48%	19%	<0.05
(any grade)	38%	6%	<0.05
cGvHD (mod/sev)	127 d	192 d	0.006
Time to stop immunosuppression	Treo dose levels (10 vs 12 vs 14 g/m²) showed similar survival and relapse, but higher NRM with Treo-10.		

Conclusions*

- FT and FTT provided comparable survival with low NRM.
- FT showed lower toxicity and similar relapse despite higher-risk pts but was associated with higher cGvHD.
- FT appears to be a promising Treo-based regimen.

Treosulfan-based conditioning with PTCY in AML: a comparison between Haploidentical and 9/10 MUD transplants. A study from the acute leukemia working party of the EBMT

B287
Poster presentation

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Study design	Retrospective EBMT registry study	**Aim**	Compare outcomes after 9/10 MUD and haploidentical transplantation in adult AML pts in CR1, testing whether reduced toxicity conditioning may outweigh donor HLA matching.
Outcome parameters	EFS, OS, MRM, CIR, GvHD, GRFS, engraftment		
Patients	275	**Median age (range)**	Haplo: 62.3 y 9/10 MUD: 60.3 y
Indication	AML (CR1)		
Conditioning regimens	All pts received Treo-based conditioning and PTCy-based GvHD prophylaxis		

Results*

Median f-up: 2.5 y

	Haplo	**9/10 MUD**	**p-value**
n	206	69	-
1 y EFS	66.3%	65.2%	0.76
2 y OS	73.1%	71.6%	0.96
2 y CIR	17.1%	18.7%	0.84
2 y NRM	16.6%	16.1%	0.86
aGvHD grade II-IV	24.7%	28.1%	0.70
aGvHD grade III-IV	9.5%	8.9%	0.99
2 y cGvHD	36.4%	12.7%	0.001
2 y cGvHD ext.	5%	6%	0.95

Conclusions

- In AML pts in CR1 undergoing allo-HSCT with Treo-based conditioning, transplant outcomes are comparable between 9/10 mismatched unrelated and haploidentical donors.

*Numbers differing from abstract were based on poster presented at conference.

Treosulfan based Myeloablative conditioning in adolescent and adult patients with hemoglobinopathy

B361
Poster presentation

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Study design	Retrospective study, single center	**Aim**	To summarize the outcomes in AYA pts with SCD and TDT undergoing T-haplo or MSD HSCT with Treo-based conditioning.
Outcome parameters	OS, DFS, median time to neutrophil engraftment, median time to platelet engraftment, GF, mixed chimerism, aGvHD, cGvHD, transplant-related toxicity		
Patients	35	**Median age (range)**	23 y (16-39)
Indications	SCD, TDT		
Conditioning regimens	Treo (3x14 g/m^2), TT (2x5 mg/kg BW), Flu (4x40 mg/m^2), ATG-Grafalon (3x15 mg/kg BW in T-haplo-HSCT, 3x10 mg/kg BW in MSD-HSCT		
Results*	n=35 pts (haplo n=17 pts; MSD n=18 pts)		
OS	94%		
DFS	94%		
Median engraftment	Neutrophil (21 d, range 8-38), platelet (20 d, range 13-48), shorter in haplo group		
GF	2 pts		
Mixed chimerism	11 pts		
aGvHD	Mild (grade I-II): 10 pts severe (grade III-IV): 0%		
cGvHD	No moderate or severe cases Mild cGvHD not systematically captured		
Transplant-related toxicity	VOD/SOS: 3 pts, all recovered HHV 6 + MAS and EBV reactivation also reported (led to 2 GF cases)		
Conclusions	• Treo-based conditioning proved to be safe, myeloablative, and highly immunosuppressive. • Excellent alternative to busulfan in this high-risk population		

Factors associated with mixed chimerism in children with non-malignant diseases transplanted with a Treosulfan-based regimen

B372
Poster presentation

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Study design	Retrospective single-center study	**Aim**	To evaluate donor chimerism after FT conditioning in HSCT for non-malignant diseases.
Outcome parameters	Donor chimerism at 12 mo, mixed chimerism (<95% donor chimerism), full donor chimerism, predictors of mixed chimerism (age, TT, serotherapy)		
Patients	111	**Median age (range)**	Not reported - pts analyzed as <6 vs >6 y
Indications	Non-malignant diseases		
Conditioning regimens	Treo + Flu ± TT ± serotherapy (ATG or Alemtuzumab)		
Results* Mixed Chimerisms	• More frequently in pts <6 y (52.8% vs 20.8%, p=0.0057) Lack of TT strongly associated (66.1% vs 20.4%, p <0.0001). • Multivariate analysis: TT omission was the strongest predictor, age <6 y and serotherapy administration were not. • Disorders of neutrophil dysfunctions subgroup: mean donor chimerism 25.5% without TT vs ~90–100% with TT		
Conclusions	• FT alone may be insufficient for durable engraftment in non-malignant diseases, especially disorders of neutrophil dysfunction; addition of TT improves donor chimerism and engraftment.		

'Improving transplant platforms': real-life experience of Treosulfan as conditioning for Allo-HSCT in AML and MDS

P196
ePoster presentation

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Affiliations: [1]Hopital Universitario de Gran Canaria Doctor Negrín, Las Palmas de Gran Canaria, Spain, [2]Hospital Universitario Nuestra Señora de la Candelaria, Santa Cruz de Tenerife, Spain

Study design	Retrospective observational monocentric study	**Aim**	Real-world experience with Treo-based conditioning in adult pts with AML and MDS, including high-risk and second-transplant candidates.
Outcome parameters	OS, PFS, TMR, incidence of complications		
Patients	18	**Median age (range)**	58 y (27–71)
Indications	Allogeneic HSCT for AML (62%) or MDS (38%), including pts requiring a second transplant or with multiple comorbidities.		
Conditioning regimens	Treo 10 g/m² (for 3 d) (total 30 g/m²) combined with Flu GvHD prophylaxis: 90% PTCy + Tacrolimus/Mycophenolate 10% MTX + Tacrolimus		
Results*			
Donors	28% HLA-identical, 33% unrelated, 39% haploidentical		
Second allo-HSCT	40%		
Disease status	56% ≥CR2/refractory		
Mutations	RUNX1 28%, DNMT3A 22%, TP53 16%		
Toxicity	No major complications; 22,2% analgesia for myalgia		
GvHD	Acute 62% (10% grade III–IV); chronic 28%		
Other events	VOD 11%, IFI 17%		
Outcomes	OS 75.8% (2 y) PFS 58.6% TMR 11.1%		
Conclusions	• Treo-based conditioning showed favorable safety and efficacy in high-risk adult AML/MDS pts, including older individuals, those with comorbidities, and recipients of a second allo-HSCT.		

Treosulfan-based conditioning regimen is associated with an increased risk of early toxicity and relapse in patients hematological malignancies

P202
ePoster presentation

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Affiliation: [1]Service d'Hématologie et de Greffe, Centre National de Greffe de Moelle Osseuse, Tunis, Tunisia

Study design	Retrospective (2019-2024)	**Aim**	Evaluate the safety and efficacy of Treo-based conditioning
Outcome parameters	Grade III-IV mucositis, Engraftment, aGvHD, cGvHD, OS, EFS, relapse, NRM		
Patients	39	**Median age (range)**	31 y (7-53)
Indications	Lymphoid and myeloid malignancies underwent allo-HSCT from MSD		
Conditioning regimens	FTT (38%) for lymphoid malignancies, FT (18%) or TreoCy (44%) for myeloid malignancies		
Results*			
Disease status	59% in CR1, 28% ≥CR2		
AEs	Mucositis grade III-IV (77%), diarrhea (77%), vomiting (64%), diffuse erythema (64%)		
GvHD	aGvHD grade II-IV (31%), cGvHD (15%)		
Engraftment	100%; Neutrophil (16 d) / Platelet rec (23 d)		
1 y OS	78%		
1 y EFS	51%		
Relapse	23%		
NRM	3 pts		
Conclusions	• Treo-based conditioning regimen is associated with an increased risk of skin toxicity and early relapse.		

Outcome of Treosulfan-Fludarabine conditioning regimens: a single center experience

P204
ePoster presentation

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Study design	Retrospective single-center analysis	**Aim**	Collect real-world data on the feasibility, efficacy, and safety of Treo in a single-centre cohort.
Outcome parameters	Engraftment, transplant-related toxicity, infectious complications, GvHD, NRM, relapse incidence, PFS, OS		
Patients	46	**Median age (range)**	65 y (range not provided in the abstract)
Indications	Allo-HSCT		
Conditioning regimens	Treo (Standard dosage 10 g/m², increased to 14 mg/m² in selected pts) in combination with Flu 200 mg/m²		
Results*			
Engraftment	Neutrophil (17 d), platelet (14 d)		
Infectious complications	16 pts (within 100 d)		
Mucositis (grade ≥3)	7 pts		
a/cGvHD	19 pts (41%)		
Median OS	21 mo (6 pts died for relapse, 8 for NRM)		
Median PFS	15 mo (relapse in 9 pts)		
1 y NRM	16% (95% CI, 6.8-32.4%)		
2-3 y NRM	19.6% (95% CI, 6.9-32.4%)		
1 y CIR	22.9% (95% CI, 11-37.1%)		
2-3 y CIR	26.1% (95% CI, 12-39%)		
1 y RFS	61.1% (95% CI, 47.6-78.3%)		
2 y RFS	54.2% (95% CI, 40.2-73.1%)		
Conclusions	• Results support the feasibility and tolerability of Treo-based conditioning in elderly or comorbid pts undergoing allo-HSCT. • Two younger pts were included with complex clinical backgrounds, highlighting the regimen's adaptability in selected cases.		

Trecondi® 1 g / 5 g powder for solution for infusion
Qualitative and quantitative composition: One vial Trecondi 1 g (5 g) powder for solution for infusion contains 1 g (5 g) of treosulfan. When reconstituted, 1 mL of the solution for infusion contains 50 mg treosulfan. **Therapeutic indications:** Treosulfan in combination with fludarabine is indicated as part of conditioning treatment prior to allogeneic haematopoietic stem cell transplantation (alloHSCT) in adult patients and in paediatric patients older than one month with malignant and non-malignant diseases. **Posology and method of administration:** Administration should be supervised by a physician experienced in conditioning treatment followed by alloHSCT. A*dults with malignant disease:* Treosulfan is given in combination with fludarabine. Treosulfan 10 g/m² body surface area (BSA) per day as a two-hour intravenous infusion, given on three consecutive days (day -4, -3, -2) before stem cell infusion (day 0). The total treosulfan dose is 30 g/m²; Treosulfan should be administered before fludarabine. *Adults with non malignant disease*: Treosulfan is given in combination with fludarabine with or without thiotepa. Treosulfan 14 g/m² body surface area (BSA) per day as a two-hour intravenous infusion, given on three consecutive days (day -6, -5, -4) before stem cell infusion (day 0). The total treosulfan dose is 42 g/m²; Treosulfan should be administered before fludarabine. *Paediatric population:* Treosulfan is given in combination with fludarabine, with or without thiotepa. **Contraindications:** Hypersensitivity to the active substance; active non-controlled infectious disease; severe concomitant cardiac, lung, liver, and renal impairment; Fanconi anaemia and other DNA breakage repair disorders; pregnancy; administration of live vaccine. **Undesirable effects:** *Infections, infestations:* Very commonly infections (bacterial, viral, fungal). Commonly **s**epsis. Septic shock. *Neoplasms:* Treatment related second malignancy. *Blood, lymphatic system:* Very commonly myelosuppression, pancytopenia, febrile neutropenia. *Immune system:* Commonly hypersensitivity. *Metabolism and nutrition:* Commonly decreased appetite. Uncommonly glucose tolerance impaired including hyperglycaemia and hypoglycaemia. Acidosis, alkalosis, electrolyte imbalance, hypomagnesaemia. *Psychiatric:* Commonly insomnia. Uncommonly confusional state. *Nervous system:* Commonly headache, dizziness. Uncommonly intracranial haemorrhage, peripheral sensory neuropathy. Encephalopathy, intracranial haemorrhage, extrapyramidal disorder, syncope, paraesthesia, seizure. *Eye:* Dry eye, conjunctival haemorrhage. *Ear:* Uncommonly vertigo. *Cardiac:* Commonly cardiac arrhythmias (e.g. atrial fibrillation, sinus arrhythmia). Cardiac arrest, cardiac failure, myocardial infarction, pericardial effusion. *Vascular:* Commonly hypertension, hypotension, flushing. Uncommon haematoma. Embolism, capillary leak syndrome. *Respiratory, thoracic, mediastinal:* Commonly dyspnoea, epistaxis, oropharyngeal pain. Uncommonly pneumonitis, pleural effusion, pharyngeal or laryngeal inflammation, hiccups. Laryngeal pain, cough, dysphonia, hypoxia. *Gastrointestinal:* Very commonly stomatitis/mucositis, diarrhoea, nausea, vomiting, abdominal pain. Commonly oral pain, gastritis, dyspepsia, constipation, dysphagia, oesophageal or gastrointestinal pain, anal inflammation. Uncommonly mouth haemorrhage, abdominal distension, dry mouth. Gastric haemorrhage, neutropenic colitis, oesophagitis, proctitis, gingival pain. *Hepatobiliary:* Very commonly hepatotoxicity. Uncommonly veno-occlusive liver disease. Hepatomegaly. *Skin, subcutaneous tissue:* Very commonly pruritus, alopecia. Commonly (maculo-papular) rash, purpura, erythema, urticaria, palmar plantar erythrodysaesthesia syndrome, dermatitis exfoliative, pain of skin, skin hyperpigmentation. Uncommonly erythema multiforme, dermatitis acneiform, dry skin. Skin necrosis or ulcer, dermatitis, dermatitis bullous, dermatitis diaper. *Musculoskeletal and connective tissue:* Commonly pain in extremity, back pain, bone pain, arthralgia. Uncommonly myalgia. *Renal, urinary:* Commonly acute kidney injury, haematuria. Uncommonly urinary tract pain. Renal failure, haemorrhagic or noninfective cystitis, dysuria. *Reproductive system:* Scrotal erythema, penile pain. *General, administration site:* Very commonly asthenic conditions (fatigue, asthenia, lethargy), pyrexia. Commonly oedema, chills. Uncommonly non cardiac chest pain, pain, face oedema. *Investigations:* Very commonly blood bilirubin increased, ALT increased. Commonly AST increased, γGT increased, C**-**reactive protein increased, weight decreased, weight increased. Uncommonly blood alkaline phosphatase increased. Blood lactate dehydrogenase (LDH) increased. **Legal classification**: POM (prescription only medicine). **Marketing authorisation holder:** medac GmbH Theaterstraße 6; 22880 Wedel, Germany. **Date of revision of text**: 05/2026
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