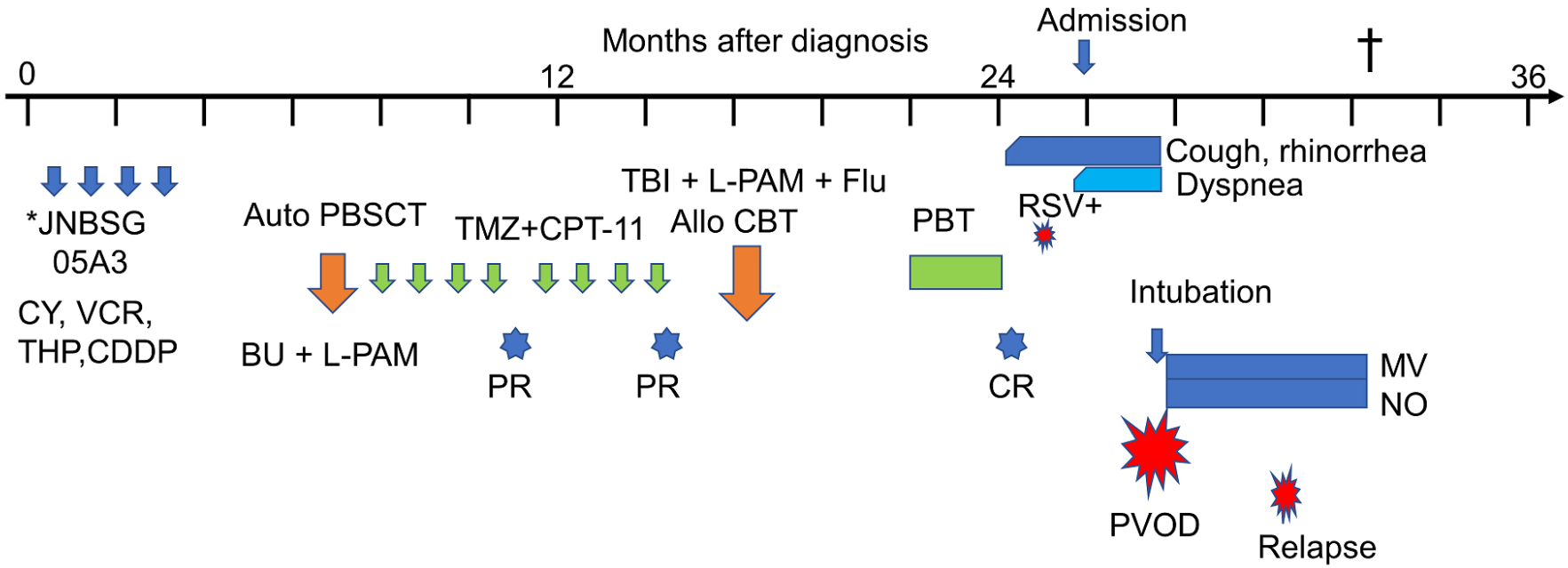
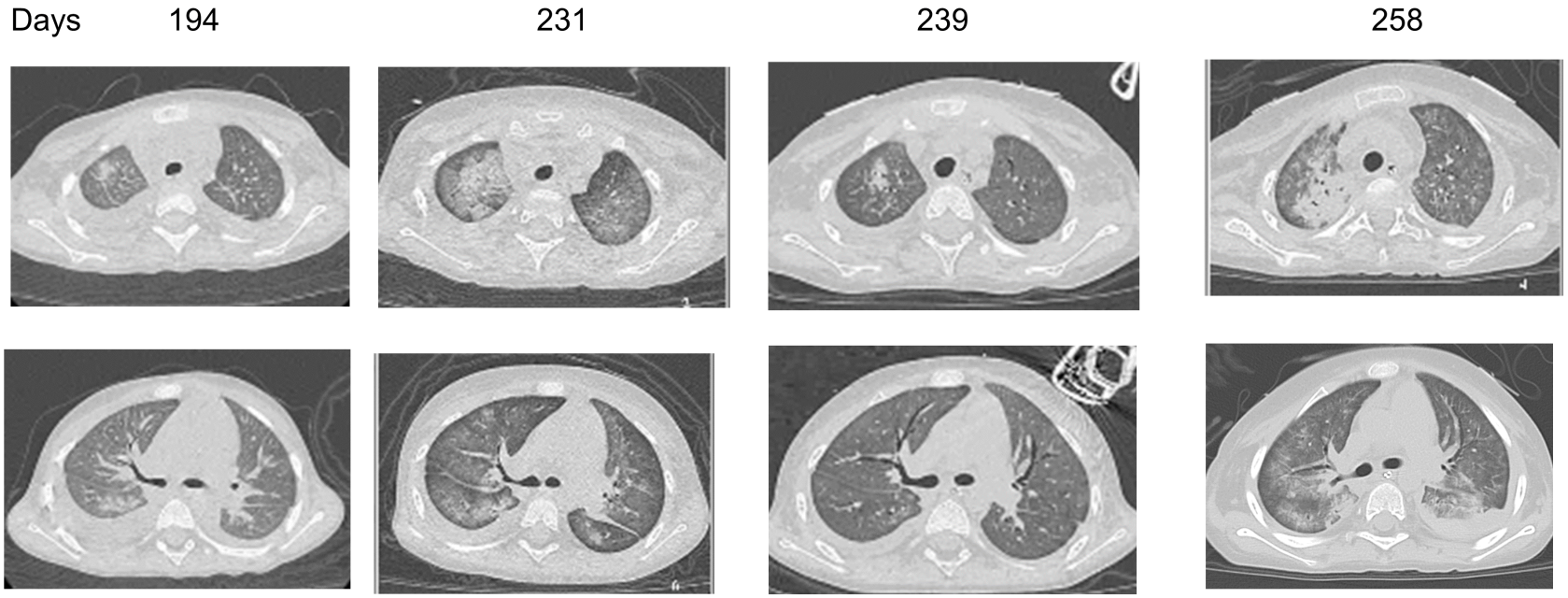
Figure S1. Clinical course of the patient



*The patient was administered the "05A3" Japan Neuroblastoma Study Group regimen (Hishiki T et al., Int J Clin Oncol. 2018 Oct;23(5):965-973.).
Abbreviations: Allo CBT, allogeneic cord blood transplantation; Auto PBSCT, autologous peripheral blood stem cell transplantation; BU, busulfan; CDDP, cisplatin; CPT-11, irinotecan; CR, complete remission;-Flu, fludarabine; L-PAM, melphalan; MV; mechanical ventilation; NO, nitric oxide; PBT, proton beam therapy; PR, partial response; PVOD, pulmonary veno-occlusive disease; RSV, respiratory syncytial virus; THP, pirarubicin; TBI, total body irradiation; TMZ temozolomide; VCR, vincristine

Figure S2. Sequential CT findings of the patient



Chest CT findings on day 194 (admission), 231 (PICU transfer), 239, and 258. Despite receiving a medium dose of prednisolone, the patient's respiratory condition deteriorated along with CT findings. After transfer to the PICU (day 231), the initiation of inhaled NO and methylprednisolone improved both PH and respiratory conditions (day 239). However, prednisolone tapering led to worsened PH and respiratory conditions along with the deterioration of CT findings (day 258).

Abbreviations: CT, computed tomography; NO, nitric oxide; PICU; pediatric intensive care unit; PH, peripheral hypertension.

Table S2. Clinical information regarding 1st and 2nd HSCT in the patient

First HSCT	Autologous PBSCT and BMT
Conditioning	BU + L-PAM
NCC	PBSCT: 15.6×10^8/kg, BMT: 0.8×10^8/kg*
$CD34^+$	PBSCT: 1.1×10^6/kg
Day of neutrophil engraftment (day)	13
Second HSCT	Allogeneic CBT
Conditioning	Flu (150 mg/m^2) + L-PAM (140 mg/m^2) + TBI 12 Gy
Donor source	Unrelated donor
HLA matching	5/8 (HLA-A, B, C mismatch) Patient: A 02:06/33:03, B 15:18/44:03, C 08:01/14:03, DR:09:01:13:02 Donor: A 02:01/33/03, B 40:01/44:03, C 15:02/14:03, DR 09:01/13/02
NCC	10.4×10^7/kg
$CD34^+$	2.90×10^5/kg
Day of neutrophil engraftment (day)	17
GVHD prophylaxis	FK: 0.03 mg/kg (from day -1) + MTX: 7 mg/m^2 (day +1), 5 mg/m^2 (day +3, +6)
GVHD	Grade 3 (skin: stage 3, liver: stage 1, gut: stage 2)

*The patient was unable to obtain sufficient numbers of PBSCs even with 4 rounds of harvest. Therefore, bone marrow was harvested from the patient and added to PBSCs.

Abbreviations: BMT, bone marrow transplantation; BU, busulfan; CBT, cord blood transplantation; FK, tacrolimus; Flu, fludarabine; GVHD, graft-versus-host disease; HLA, human leukocyte antigen; HSCT, hematopoietic stem cell transplantation; L-PAM, melphalan; MTX, methotrexate; NCC, nuclear cell count; PBSCT, peripheral stem cell transplantation; TBI, total body irradiation

Table S1. Clinical characteristics of HSCT-associated PVOD

No.	Age (y)/sex	Clinical diagnosis	Pre-transplant therapy	Transplant conditioning therapy	Donor source	GVHD	SOS	Onset of post-HSCT PVOD (d)	Biopsy or autopsy	Infection before PVOD onset	Outcome	Reference
1	36/F	ALL	DNR	CY, L-PAM, VP-16, TLI, TBI	uBM	−	+	6	−	−	Alive +27 d	1
2	48/M	MM	VCR, DXR, DEX	L-PAM	Auto PBSC	NA	−	11	−	NA	Alive +49 d	2
3	1/M	NB	CY, VCR, DXR, CDDP, VP-16, TBI	CBDCA, VP-16, L-PAM	Auto PBSC	NA	−	13	+	−	Dead	3
4	21/M	AML	IDR, Ara-C, DNR	GO, FLU, L-PAM, TBI	uBM	−	−	35	−	−	Dead	4
5	12/M	ALL	CY, PSL, Ara-C, VCR, DNR	CY, TBI	rBM	aGVHD	+	44	+	*P. aeruginosa* pneumonia (d32)	Dead	5
6	4/F	ALL	CY, MTX, PSL, Ara-C, VCR, DNR, L-asp	CY, BU, MTX, VP-16, BCNU, TBI	rBM	Subclinical (cGVHD)	NA	46	+	No evidence of viral pneumonia	Dead (relapse)	6
7	39/M	NHL	CY, DXR, VCR, PSL, Ara-C, VP-16, CDDP	CY, VP-16, BCNU, DTIC	Auto BM	NA	−	52	+	NA	Dead	7
8	0/M	ALL	DEX, VCR, AraC, DNR, L-asp, MTX, VP-16, CY	BU, CY, VP-16	CB	NA	+	53	−	MRSE bacteremia (d7)	Alive +350 d	8
9	0/F	AML	NA	BU, L-PAM Flu, L-PAM, TBI	CB	−	−	11 (58)*	+	*Staphylococcus epidermidis*	Dead	9
10	4/M	ALL	CY, MTX, PSL, Ara-C, VCR, DNR, L-asp, VP-16, tenoposide, 6-MP, TBI	CY, VP-16, BCNU	rBM	−	+	60	−	No evidence of viral pneumonia	Alive +230 d	6
11	51/F	AML	NA	CY, FLU, TBI	CB	−	NA	60**	+	−	Alive +8 m	10
12	5/F	NB	VCR, THP, CY, CDDP	BU, L-PAM	Auto PBSC	−	+	73	−	NA	Alive +2 y	11
13	20/M	NHL	CY, DXR, VCR, PSL, CBDCA, Ara-C, MIT	CY, Ara-C, TBI	rBM	−	+	73	+	NA	Dead	12
14	20/M	NHL	CY, VCR, PSL, DXR, MTX, Ara-C, L-asp, DEX	L-PAM, TEPA, FLU, ATG	PBSC	NA	−	77	−	CMV pneumonia, RSV infection	Dead +141 d	13

15	26/F	AML	Ara-C, IDR, midostaurin	TEPA, FLU, TBI, ATG	NA	aGVHD	NA	92	+	−	Dead	14
16	21/F	AML	IDR, Ara-C	CY, FLU, TBI	CB	Suspected (cGVHD)	NA	138	−	−	Alive +998 d	10
17	49/F	CML	IFN-α	CY, TBI	PBSC	−	NA	168	−	NA	Dead	15
18	24/M	ALL	CY, DXR, VCR, PSL, MTX, Ara-C, L-asp, BCNU, ACT-D, 6-MP	NA	uBM	−	NA	180	+	NA	Alive +360 d	16
19	19/F	ALL	NA	CY, Ara-C, BU, VP-16, L-PAM, MIT, TBI	rBM	cGVHD	−	342	+	Pulmonary aspergillosis (autopsy)	Dead	17
20	4/M	NB	CY, CDDP, VCR, THP, TMZ, CPT-11	BU, L-PAM, FLU, TBI	Auto PBSC +CB	aGVHD: grade 3	−	231	+	RSV infection	Dead	Present case

*The patient experienced pulmonary hypertension on day 11 that was successfully treated with inhaled nitric oxide and tadalafil. However, pulmonary hypertension recurred on day 58. An autopsy revealed the PVOD findings.

**Originally described as 2 months.

Abbreviations: ACT-D, actinomycin D; aGVHD, acute graft-versus-host disease; ALL, acute lymphoblastic leukemia; AML, acute myeloid leukemia; Ara-C, cytarabine; ATG, anti-thymocyte globulin; Auto, autologous; BCNU, bis-chloroethyl nitrosourea; BU, busulfan; CB, cord blood transplantation; CBDCA, carboplatin; CDDP, cisplatin; cGVHD, chronic graft-versus-host disease; CML, chronic myeloid leukemia; CMV, cytomegalovirus; CPT-11, irinotecan; CY, cyclophosphamide; DEX, dexamethasone; DNR, daunorubicin; DTIC, dacarbazine; DXR, doxorubicin; F, female; FLU, fludarabine; GO, gemtuzumab ozogamicin; HSCT, hematopoietic stem cell transplantation; IDR, idarubicin; IFN-α, interferon-α; L-asp, L-asparaginase; L-PAM, melphalan; M, male; MIT, mitoxantrone; MM, multiple myeloma; MTX, methotrexate; NA, not available; NB, neuroblastoma; NHL, non-Hodgkin lymphoma; PBSC, peripheral blood stem cell; PSL, prednisolone; PVOD, pulmonary veno-occlusive disease; rBM, related bone marrow; RSV, respiratory syncytial virus; SOS, sinusoidal obstruction syndrome; TBI, total body irradiation; TEPA, thiotepa; THP, pirarubicin; TLI, total lymphoid irradiation; TMZ, temozolomide; uBM, unrelated bone marrow; VCR, vincristine; VP-16, etoposide; 6-MP, mercaptopurine

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