Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

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Dose Modification

Infusion Interruption/Dose Modification due to Adverse Events

Common Terminology Criteria for Adverse Events (CTCAE) grade 4 adverse events at least possibly related to blinatumomab required permanent discontinuation of blinatumomab. For CTCAE grade 4 adverse events that were numerically defined laboratory parameters, independent investigator assessment was used to determine the risk:benefit for each individual patient to continue or discontinue blinatumomab treatment.

For CTCAE grade ≥ 3 cytokine release syndrome, tumor lysis syndrome, and DIC/coagulopathy, treatment with blinatumomab was interrupted until the event resolved to grade ≤ 1. For CTCAE grade ≥ 3 infection, blinatumomab was interrupted until the infection was adequately controlled or resolved per the opinion of the investigator. Blinatumomab could be restarted at the lowest starting dose (9 µg/d). If the AE lasted for ≥ 2 weeks, then blinatumomab was permanently discontinued.

For all other CTCAE grade ≥ 3 events and clinically significant laboratory value changes, investigator assessment was used to determine the risk:benefit to continue blinatumomab therapy with or without dose reduction or discontinuation.

Patients who were dose reduced had an option to receive the higher dose level once the AE resolved to grade ≤ 1 for ≥ 7 days.

Restart of the infusion was performed in the hospital, under supervision of the investigator. Before blinatumomab was restarted, premedication with dexamethasone was administered. The patient was observed overnight for possible side effects after the restart.

In addition to the events described above, the dose could be temporarily or permanently reduced to 9 µg/day if, by investigator´s judgment, it was necessary for safety reasons. After ≥ 7 days of dosing at 9 µg/day, the dose could be increased to 28 µg/day or treatment could be continued at the dose of 9 µg/day after consultation with an Amgen medical monitor. This did not apply for neurologic events as outlined below.

If the interruption after an adverse event was ≤ 7 days, the same cycle was continued. The infusion duration before and after an interruption totaled 28 days per treatment cycle.

If an interruption due to an adverse event was > 7 days, a new cycle was started. In addition, an incomplete treatment cycle with a treatment duration of < 2 weeks was repeated (eg, if cycle 1 was interrupted on day 8 for more than 7 days, the next cycle was denoted as cycle 1.1 and the same assessments were performed as in cycle 1). For cycle 1.1, patients were started at 9 µg/day for the first 7 days of dosing followed by a dose step to 28 µg/day beginning at day 8 and continuing for the remainder of cycle 1.

In the case of treatment interruptions that did not result in the initiation of a new cycle (ie, < 7 days), all assessments were completed according to the number of active days on treatment.

An infusion interruption of > 2 weeks due to an adverse event related to blinatumomab led to permanent discontinuation of treatment. In case of logistical difficulties, restart of treatment could be postponed for up to 14 additional days without resulting in permanent treatment discontinuation.

Treatment could also be interrupted or permanently discontinued at the discretion of the investigator if any clinical/laboratory adverse event was considered to be medically relevant.

In case of signs of cytokine release, dexamethasone was administered orally or IV at a dose of at maximum 3 x 8 mg/day for up to 3 days. The dose was then be reduced step-wise over 4 days.

Infusion Interruption/Dose Modification due to Neurologic Events

In case of neurologic events, dexamethasone was administered at a dose of **≤** 24 mg/day. The dexamethasone dose was then reduced step-wise over 4 days.

In case of CTCAE grade ≥ 3 neurologic events blinatumomab was stopped immediately and a physical exam, vital signs, and safety laboratory tests were performed. Additional measures could be taken upon

discretion of the investigator, depending on the nature of the adverse event. Diagnostic measures to exclude potential infectious causes were conducted after grade ≥ 3 neurologic events; an assessment of cerebrospinal fluid was performed for cytology, cell count, and viral studies (HSV 1/2, HSV6, JC virus and adenovirus). Additional investigations of the CSF were performed as clinically appropriate.

For patients who experienced a grade ≥ 3 neurologic event or serious adverse event leading to treatment interruption, if the event decreased to grade ≤ 1 within 1 week, treatment could be restarted within 2 weeks, but not earlier than 72 hours (3 days) after the infusion was stopped. After treatment interruption, a new treatment cycle could be started after consultation with an Amgen medical monitor. Before treatment was resumed, a contrast-enhanced magnetic resonance imaging (MRI) of the head was performed for patients who interrupted treatment because of a grade ≥ 3 neurologic event. Infusion was restarted in the hospital, under supervision of the investigator and the patient remained hospitalized for ≥ 2 days. Following dexamethasone premedication, a new treatment cycle started with a dose of 9 µg/day. There was no dose escalation on day 8 or for the following cycles. After restarting blinatumomab, vital sign measurements and writing samples were performed for the next 3 days.

If the neurologic event was a seizure (CTCAE grade ≥ 2), appropriate prophylactic anticonvulsant treatment (a therapeutic dose of eg, phenytoin or levetiracetam) was administered during the next treatment cycle.

A grade 3 neurologic event leading to treatment interruption at the dose of 9 µg/day or a neurologic event needing > 1 week to resolve to grade ≤ 1 resulted in permanent treatment discontinuation.

In case of neurologic events grade 4, or in case of occurrence of more than one seizure, the infusion of blinatumomab was stopped immediately and treatment was permanently discontinued. The investigations previously described for a grade ≥ 3 neurologic event were performed.

At the discretion of the investigator, an MRI was considered for patients who permanently discontinued treatment because of a grade ≥ 3 neurologic event.

Criteria for Discontinuation of Protocol-specified Therapy

Blinatumomab Discontinuation

Treatment with blinatumomab was discontinued in the event of any of the following:

- Hematologic or extramedullary relapse subsequent to achieving ≤ 5% bone marrow blasts on protocol treatment (exception: patients who developed isolated CNS leukemia, relapsed during treatment, and had not met the criteria for an event as defined above could continue on study and receive additional CNS directed therapy in addition to systemic protocol-specified therapy.)
- Failure to achieve complete remission (CR), complete remission with partial hematologic recovery (CRh), complete remission with incomplete hematologic recovery (CRi), or a bone marrow response defined as ≤ 5% within 2 treatment cycles
- Occurrence of grade 4 adverse event at least possibly related to blinatumomab. For grade 4 adverse events that were numerically defined laboratory parameters, independent investigator assessment was used to determine the risk:benefit for each individual patient to continue or discontinue blinatumomab treatment.
- Occurrence of an adverse event that made discontinuation from treatment necessary due to protocol-specified safety criteria or desirable in the investigator's and/or the patient's opinion
- An infusion interruption of > 2 weeks due to an adverse event related to blinatumomab (exception: in case of logistical difficulties, restart of treatment could be postponed for up to 14 additional days without resulting in permanent treatment discontinuation)
- Occurrence of a neurologic event meeting one or more of the following criteria:
    - More than 1 seizure event before reaching a therapeutic dose of anti-epileptic medication
    - A grade 4 neurologic event

  - A neurologic event leading to treatment interruption that required more than one week to resolve to grade ≤ 1
  - A grade 3 neurologic event leading to treatment interruption that occurred at a dose of 9µg/day (an MRI was recommended for patients who discontinued treatment because of a grade ≥ 3 neurologic event)
  - Investigator's decision that a change of therapy (including immediate hematopoietic stem cell transplant [HSCT]) was in the patient´s best interest
- Administration of relevant non-permitted concomitant medications
- Investigator decision that a patient did not benefit from treatment anymore (eg, non-response or development of progressive disease)
- Intercurrent medical condition that in the opinion of the investigator or the patient precluded further treatment of the patient
- Withdrawal of patient's consent to further study treatment

If a patient failed to keep appointments for study visits, the investigator documented the reason and circumstances as completely and accurately as possible.

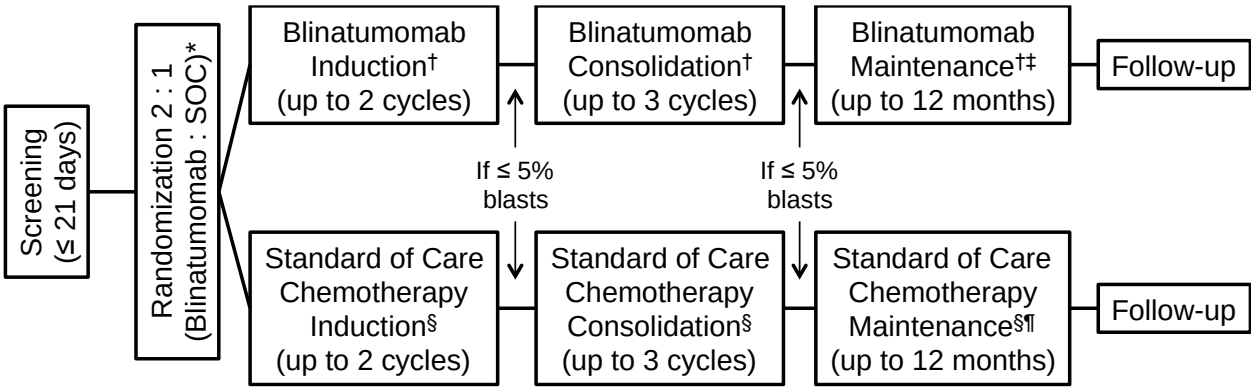
In case of premature treatment discontinuation, assessments planned for day 29 (end of infusion) were performed immediately. (Exceptions: CSF examination/prophylaxis was not required in case of premature treatment discontinuation, and bone marrow aspiration/biopsy was not required in case of documented progressive disease.) In addition, the safety follow-up visit was performed 30 days after the last dose of blinatumomab was administered or, if applicable, before the start of non-protocol-specified therapy or alloHSCT, whichever occured first. The patient continued to completed all relevant long term follow-up visits.

Standard of Care Chemotherapy Discontinuation

Treatment with chemotherapy was discontinued in the event of any of the following:

- Patient met criteria for discontinuation of chemotherapy based on the respective product inserts
- Hematologic or extramedullary relapse subsequent to achieving ≤ 5% bone marrow blasts on protocol treatment (Exception: patients who developed isolated CNS leukemia relapse during treatment and who did not meet criteria for an event as defined above could continue on study and receive additional CNS directed therapy in addition to their systemic protocol-specified therapy)
- Failure to achieve CR/CRh/CRi within 2 treatment cycles
- Occurrence of an adverse event that made discontinuation from treatment necessary due to protocol-specified safety criteria or desirable in the investigator's and/or the patient's opinion
- Investigator decision that a change of therapy (including immediate HSCT) was in the patient's best interest
- Administration of relevant non-permitted concomitant medications
- Investigator decision that a patient did not benefit from treatment anymore (eg, non-response or development of progressive disease)
- Intercurrent medical condition that in the opinion of the investigator or the patient precluded further treatment of the patient
- Withdrawal of patient's consent to study treatment

Figure S1. Study Design*



* Randomization was stratified by age, prior salvage therapy, and prior allogeneic hematopoietic stem cell transplant

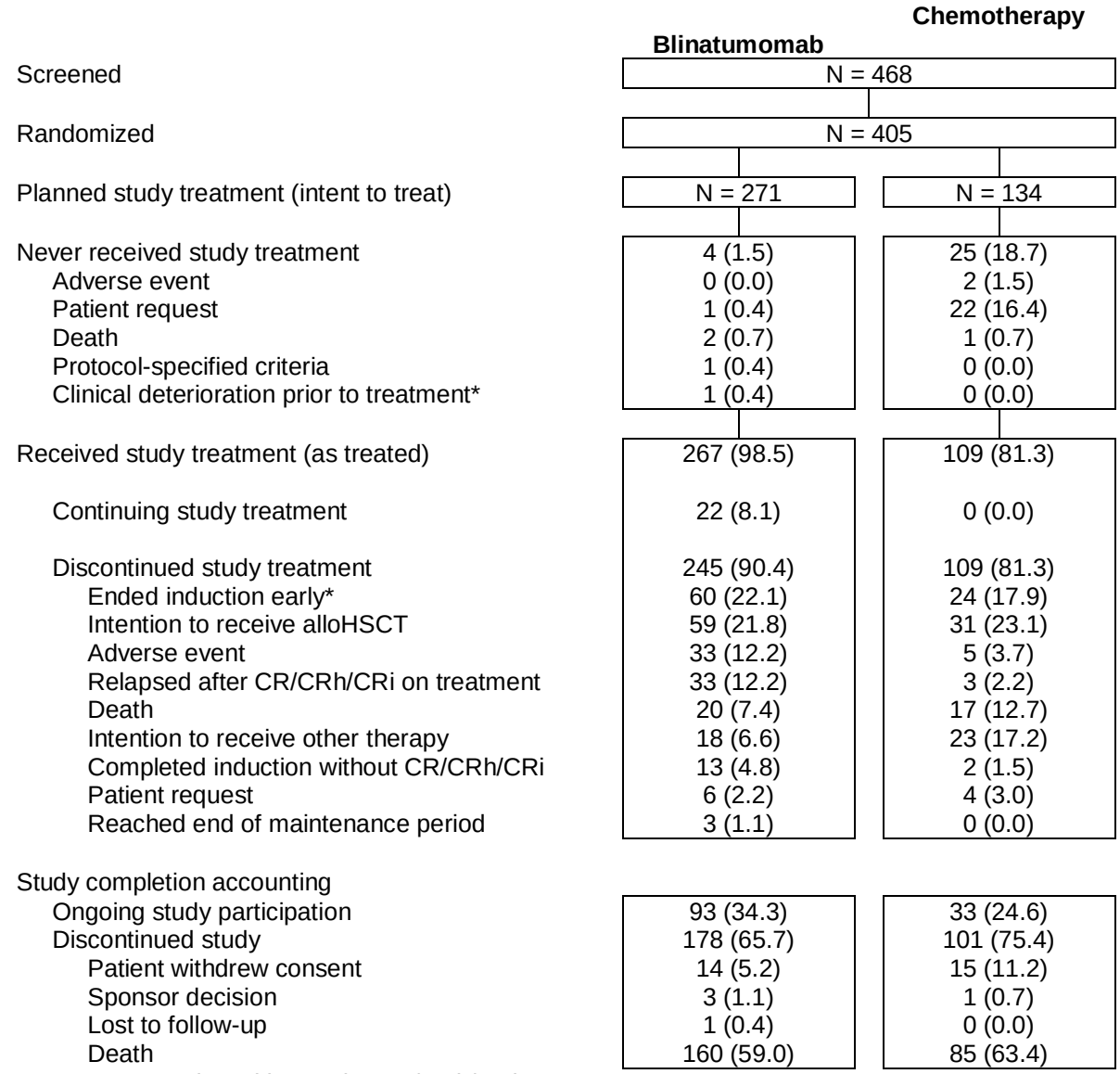
† Blinatumomab was given in six-week cycles of four weeks on (continuous infusion of 9 µg/d in week 1 of cycle 1, then 28 µg/d) and two weeks off; dexamethasone was given pre-dose to prevent cytokine release syndrome

‡ Patients could receive blinatumomab maintenance treatment in 12-week cycles of four weeks on and eight weeks off after the two-week treatment-free interval following the last consolidation cycle until stem cell transplant, toxicity, relapse, use of other anti-tumor therapy, or at investigator discretion

§ Investigator's choice of one of four regimens: FLAG ± anthracycline; HiDAC-based; high-dose methotrexate-based; or clofarabine-based

¶ Patients could receive maintenance with assigned chemotherapy until stem cell transplant, toxicity, relapse, use of other anti-tumor therapy, or investigator discretion

Figure S2. Patient Attrition Diagram.



* Due to progression without prior CR/CRh/CRi.

AlloHSCT denotes allogeneic hematopoietic stem cell transplant, CR complete remission, CRh complete remission with partial hematologic recovery, CRi complete remission with incomplete hematologic recovery.

Figure S3. Overall Survival Among Patients Who Received Study Treatment.

Calculated from randomization to death from any cause. Median follow-up for overall survival: blinatumomab, 11.7 months; chemotherapy, 11.6 months.

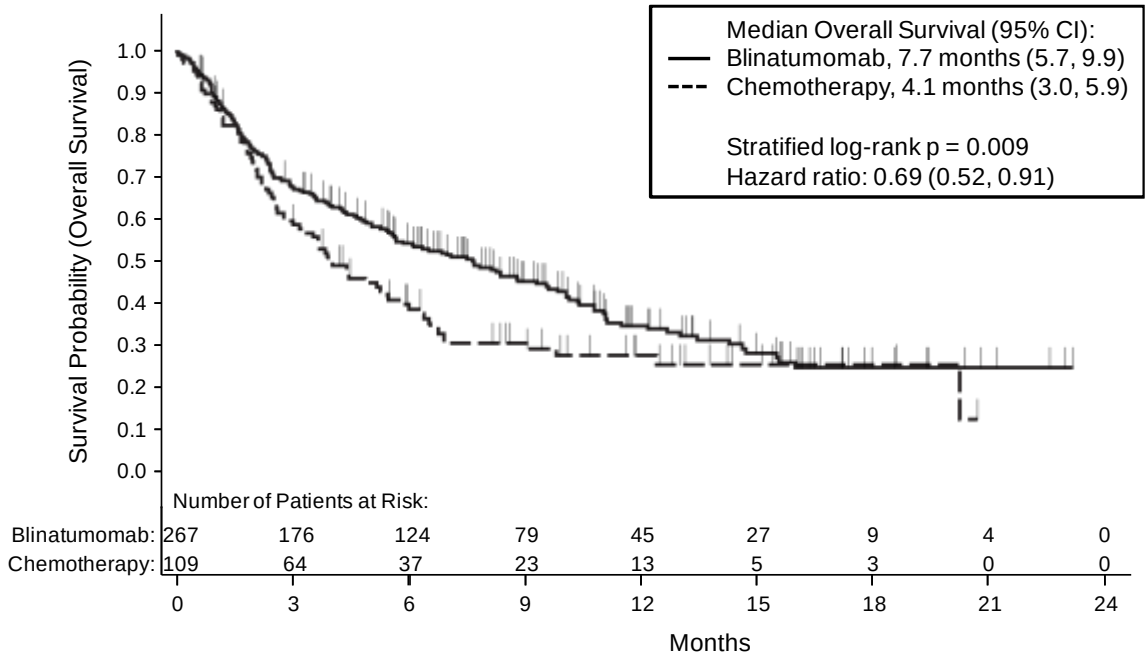


Table S1. Dexamethasone Premedication in the Blinatumomab Group

Treatment Phase	Target Patient	Dexamethasone Dose
Prephase therapy before blinatumomab (to prevent cytokine release syndrome [CRS])	During screening and before the start of treatment: Mandatory for: Proportion of blasts exceeds approximately 50%, or Peripheral blast count ≥15,000/µL Recommended for: LDH indicates rapidly progressing disease, or Extramedullary high tumor load	Dexamethasone orally or IV 10 mg/m²/day could be administered during screening and pre-phase until cycle 1 day 1. If indicated dexamethasone dose could be increased to an absolute maximum of 24 mg/day
Predose dexamethasone before each blinatumomab treatment (to prevent infusion reactions)	All patients (before each cycle and dose step/increase)	Dexamethasone 20 mg IV: within 1 hour before start of treatment in each treatment cycle, and within 1 hour before dose step (increase).
Infusion interruption/dose modification due to adverse event	Patients who interrupted treatment > 4 hours	Dexamethasone 20 mg IV: within 1 hour before re-start of treatment
CRS treatment	Patients with signs of CRS	Dexamethasone orally or IV at a dose maximum 3 x 8 mg/day for up to 3 days. The dose was then reduced step-wise over 4 days.
Infusion interruption/dose modification due to neurologic events	Patients with neurologic event	Dexamethasone was to be administered at a dose of at least 24mg/day. Dexamethasone was then reduced step-wise over 4 days.

IV, intravenous; LDH, lactate dehydrogenase

Table S2. Standard of Care Chemotherapy Options*

1.	FLAG ± anthracycline based regimen (such as Idarubicin 10 mg/m^2 days 1, 3; fludarabine 30 mg/m^2 days 1-5; cytarabine 2g/m^2 days 1-5). For patients > 60 years of age: Idarubicin 5 mg/m^2 day 1,3; fludarabine 20 mg/m^2 days 1-5; cytarabine 1 g/m^2 days 1-5
2.	HiDAC based regimen that utilize doses of cytarabine arabinoside at least 1 g/m^2 or greater per day ± anthracycline and/or in combination with other drugs such as native E.coli asparaginase, PEG-asparaginase, vinca alkaloids, steroids, etoposide or alkylating agents
3.	High-dose methotrexate based regimen (such as 500 mg/m^2 - 3 g/m^2 HDMTX (infusion time up to 24 hours) in combination with other drugs such as native E.coli asparaginase, PEG-asparaginase, vinca alkaloids, steroids, etoposide or alkylating agents.
4.	Clofarabine or clofarabine based regimens. Clofarabine use as a single agent should follow the recommended prescribing information. Clofarabine combination based regimens should use ≥ 20 mg/m^2/day for up to 5 days.

* Once a regimen was initiated, the regimen was not to be changed. If indicated for toxicity or other safety reasons, dose modifications were performed when possible. If a change in regimen was required, the criteria for discontinuation were met.

Table S3. Disease Characteristics at Baseline.*

	Randomized		Treated	
Disease Characteristic	**Blinatumomab (N = 271)**	**Chemotherapy (N = 134)**	**Blinatumomab (N = 267)**	**Chemotherapy (N = 109)**
ECOG — no. (%)				
0	96 (35.4)	52 (38.8)	95 (35.6)	41 (37.6)
1	134 (49.4)	61 (45.5)	133 (49.8)	48 (44.0)
2	41 (15.1)	20 (14.9)	39 (14.6)	19 (17.4)
>2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Unknown	0 (0.0)	1 (0.7)	0 (0.0)	1 (0.9)
B-precursor subtype — no. (%)				
Pro-B-ALL	30 (11.1)	15 (11.2)	30 (11.2)	14 (12.8)
Pre-B-ALL	124 (45.8)	49 (36.6)	122 (45.7)	41 (37.6)
C-ALL	47 (17.3)	29 (21.6)	47 (17.6)	24 (22.0)
B-ALL with recurrent genetic abnormality	28 (10.3)	18 (13.4)	28 (10.5)	13 (11.9)
Unknown	42 (15.5)	23 (17.2)	40 (15.0)	17 (15.6)
If present, type of abnormality — no. (%)				
Hyperdiploidy	6 (2.2)	4 (3.0)	6 (2.2)	3 (2.8)
Hypodiploidy	6 (2.2)	5 (3.7)	6 (2.2)	4 (3.7)
t(v;11q23)/MLL rearranged	11 (4.1)	7 (5.2)	11 (4.1)	5 (4.6)
t(12;21)(p13;q22)/TEL-AML1	1 (0.4)	1 (0.7)	1 (0.4)	0 (0.0)
t(1;19)(q23;p13.3)/E2A-PBX1	2 (0.7)	1 (0.7)	2 (0.7)	1 (0.9)
t(5;14)(q31;32)/IL3-IGH	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Unknown	2 (0.7)	0 (0.0)	2 (0.7)	0 (0.0)
WBC at diagnosis — no. (%)				
<30,000/mcl	143 (52.8)	62 (46.3)	141 (52.8)	50 (45.9)
≥30,000/mcl	71 (26.2)	40 (29.9)	69 (25.8)	34 (31.2)
Unknown	57 (21.0)	32 (23.9)	57 (21.3)	25 (22.9)
Time to CR following 1st line treatment — no. (%)				
Early (≤4 weeks)	77 (28.4)	40 (29.9)	76 (28.5)	34 (31.2)
Late (>4 weeks)	98 (36.2)	53 (39.6)	98 (36.7)	43 (39.4)
Refractory	49 (18.1)	26 (19.4)	47 (17.6)	22 (20.2)
Unknown	47 (17.3)	15 (11.2)	46 (17.2)	10 (9.2)
MRD status following 1st line treatment — no. (%)				
Negative ($<10^{-4}$)	64 (23.6)	32 (23.9)	63 (23.6)	27 (24.8)
Positive ($\geq 10^{-4}$)	59 (21.8)	29 (21.6)	58 (21.7)	25 (22.9)
Unknown	148 (54.6)	73 (54.5)	146 (54.7)	57 (52.3)
Primary refractory — no. (%)				
Yes	46 (17.0)	27 (20.1)	44 (16.5)	23 (21.1)
No	225 (83.0)	106 (79.1)	223 (83.5)	85 (78.0)
Unknown	0 (0.0)	1 (0.7)	0 (0.0)	1 (0.9)
Refractory to salvage treatment — no. (%)				
Yes	87 (32.1)	34 (25.4)	84 (31.5)	25 (22.9)
No	182 (67.2)	99 (73.9)	181 (67.8)	83 (76.1)
Unknown	2 (0.7)	1 (0.7)	2 (0.7)	1 (0.9)
First relapse with remission duration <12 months — no. (%)				
Yes	109 (40.2)	49 (36.6)	108 (40.4)	37 (33.9)
No	161 (59.4)	85 (63.4)	158 (59.2)	72 (66.1)
Unknown	1 (0.4)	0 (0.0)	1 (0.4)	0 (0.0)
In untreated second or greater relapse — no. (%)				
Yes	46 (17.0)	21 (15.7)	45 (16.9)	19 (17.4)
No	225 (83.0)	113 (84.3)	222 (83.1)	90 (82.6)

	Randomized		Treated	
Disease Characteristic	**Blinatumomab (N = 271)**	**Chemotherapy (N = 134)**	**Blinatumomab (N = 267)**	**Chemotherapy (N = 109)**
Relapse after alloHSCT — no. (%)				
Yes	91 (33.6)	45 (33.6)	90 (33.7)	34 (31.2)
No	180 (66.4)	88 (65.7)	177 (66.3)	74 (67.9)
Unknown	0 (0.0)	1 (0.7)	0 (0.0)	1 (0.9)
Any prior alloHSCT — no. (%)				
Yes	94 (34.7)	46 (34.3)	93 (34.8)	35 (32.1)
No	176 (64.9)	87 (64.9)	173 (64.8)	73 (67.0)
Unknown	1 (0.4)	1 (0.7)	1 (0.4)	1 (0.9)
Number of prior salvage regimens — no. (%)				
0	114 (42.1)	65 (48.5)	112 (41.9)	55 (50.5)
1	91 (33.6)	43 (32.1)	91 (34.1)	34 (31.2)
2	45 (16.6)	16 (11.9)	43 (16.1)	12 (11.0)
3	14 (5.2)	5 (3.7)	14 (5.2)	5 (4.6)
>3	7 (2.6)	5 (3.7)	7 (2.6)	3 (2.8)
Key ALL entry criterion — no. (%)				
Refractory to primary or salvage therapy	115 (42.4)	54 (40.3)	112 (41.9)	43 (39.4)
In first relapse with first remission <12 months	76 (28.0)	37 (27.6)	76 (28.5)	30 (27.5)
In untreated second or greater relapse†	32 (11.8)	16 (11.9)	31 (11.6)	14 (12.8)
Relapsed after alloHSCT†	46 (17.0)	27 (20.1)	46 (17.2)	22 (20.2)
No criteria met	2 (0.7)	0 (0.0)	2 (0.7)	0 (0.0)
Max of central/local bone marrow blasts — no. (%)				
≤5%	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
>5 to <10%	9 (3.3)	7 (5.2)	9 (3.4)	4 (3.7)
10 to <50%	60 (22.1)	23 (17.2)	60 (22.5)	19 (17.4)
≥50%	201 (74.2)	104 (77.6)	198 (74.2)	86 (78.9)
Unknown	1 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)
Max of central/local bone marrow blasts (%)				
n	270	134	267	109
Mean	70.0	70.5	69.9	72.4
SD	29.3	28.8	29.4	27.7
Median	81.0	83.0	81.0	85.0
Q1, Q3	47.0, 93.0	50.0, 94.0	46.0, 93.0	52.0, 95.0
Min, Max	6, 100	6, 100	6, 100	6, 100
CD19 status — no. (%)				
Positive	220 (81.2)	114 (85.1)	218 (81.6)	92 (84.4)
Partial positive	11 (4.1)	8 (6.0)	11 (4.1)	7 (6.4)
Weak positive	3 (1.1)	0 (0.0)	3 (1.1)	0 (0.0)
Negative	4 (1.5)	3 (2.2)	4 (1.5)	2 (1.8)
Not evaluable	11 (4.1)	5 (3.7)	11 (4.1)	5 (4.6)
Unknown	22 (8.1)	4 (3.0)	20 (7.5)	3 (2.8)
Hemoglobin (g/L)				
n	271	134	267	109
Mean	98.0	100.5	98.1	99.6
SD	17.5	18.3	17.5	17.7
Median	95.0	99.0	96.0	97.0
Q1, Q3	85.0, 110.0	88.0, 115.0	85.0, 110.0	88.0, 115.0
Min, Max	48, 167	64, 144	48, 167	64, 143
Absolute neutrophil count (10^9/L)				
N	232	109	231	88
Mean	2.2	2.3	2.1	2.2

Disease Characteristic	Randomized		Treated	
	Blinatumomab (N = 271)	Chemotherapy (N = 134)	Blinatumomab (N = 267)	Chemotherapy (N = 109)
SD	3.0	2.9	2.8	2.9
Median	1.2	1.5	1.2	1.4
Q1, Q3	0.4, 2.7	0.4, 3.0	0.4, 2.7	0.3, 2.8
Min, Max	0, 18	0, 20	0, 16	0, 20
White blood cell count (10^9/L)				
n	271	134	267	109
Mean	6.67	7.17	6.49	6.14
SD	15.43	15.12	15.33	9.42
Median	3.03	3.52	3.03	3.40
Q1, Q3	1.30, 5.88	1.70, 6.96	1.30, 5.85	1.72, 7.00
Min, Max	0.03, 155.84	0.10, 130.86	0.03, 155.84	0.10, 75.30
Platelets (10^9/L)				
n	271	134	267	109
Mean	71.6	93.5	71.3	93.1
SD	66.9	96.6	66.7	98.6
Median	49.0	52.0	49.0	48.0
Q1, Q3	23.0, 103.0	24.0, 133.0	23.0, 103.0	24.0, 135.0
Min, Max	2, 454	6, 580	2, 454	8, 580
Peripheral blasts in blood (10^9/L)				
n	221	113	217	95
Mean	4.4	5.0	4.4	3.6
SD	15.5	15.7	15.5	10.9
Median	0.0	0.1	0.0	0.1
Q1, Q3	0.0, 0.7	0.0, 1.4	0.0, 0.7	0.0, 1.4
Min, Max	0, 125	0, 113	0, 125	0, 69
ALT or AST >3xULN — no. (%)				
Yes	35 (12.9)	11 (8.2)	35 (13.1)	10 (9.2)
No	232 (85.6)	121 (90.3)	229 (85.8)	97 (89.0)
Unknown	4 (1.5)	2 (1.5)	3 (1.1)	2 (1.8)

* ALL denotes acute lymphoblastic leukemia, alloHSCT allogeneic hematopoietic stem cell transplant, ALT alanine aminotransferase, AST aspartate aminotransferase, Q1, Q3 interquartile range, SD standard deviation, ULN upper limit of normal.

† If none of the above applied.

Table S4. Adverse Events Reported for >5% of Patients in the Blinatumomab Group

Event	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Pyrexia	159 (59.6)	49 (45.0)
Headache	77 (28.8)	32 (29.4)
Anemia	69 (25.8)	46 (42.2)
Febrile neutropenia	64 (24.0)	43 (39.4)
Diarrhea	58 (21.7)	38 (34.9)
Neutropenia	53 (19.9)	33 (30.3)
Nausea	51 (19.1)	46 (42.2)
Thrombocytopenia	47 (17.6)	32 (29.4)
Hypokalemia	45 (16.9)	30 (27.5)
Cough	39 (14.6)	6 (5.5)
Peripheral edema	39 (14.6)	16 (14.7)
Cytokine release syndrome	38 (14.2)	0 (0.0)
Back pain	35 (13.1)	10 (9.2)
Constipation	34 (12.7)	28 (25.7)
Fatigue	34 (12.7)	14 (12.8)
Vomiting	33 (12.4)	26 (23.9)
Hypotension	32 (12.0)	13 (11.9)
Bone pain	30 (11.2)	8 (7.3)
Hypomagnesaemia	29 (10.9)	18 (16.5)
Insomnia	28 (10.5)	10 (9.2)
Tremor	26 (9.7)	0 (0.0)
Pain in extremity	25 (9.4)	8 (7.3)
Alanine aminotransferase increased	24 (9.0)	11 (10.1)
Asthenia	21 (7.9)	11 (10.1)
Hyperglycemia	20 (7.5)	9 (8.3)
Chills	19 (7.1)	12 (11.0)
Myalgia	19 (7.1)	6 (5.5)
Rash	19 (7.1)	13 (11.9)
Upper respiratory tract infection	19 (7.1)	1 (0.9)
Decreased appetite	18 (6.7)	15 (13.8)
Dizziness	18 (6.7)	8 (7.3)
Epistaxis	18 (6.7)	9 (8.3)
Stomatitis	18 (6.7)	14 (12.8)
Tachycardia	18 (6.7)	10 (9.2)
Abdominal pain	17 (6.4)	19 (17.4)
Hypertension	17 (6.4)	9 (8.3)
Platelet count decreased	17 (6.4)	13 (11.9)
Arthralgia	16 (6.0)	5 (4.6)
Device related infection	16 (6.0)	6 (5.5)
Dyspnea	16 (6.0)	8 (7.3)
Hypogammaglobulinemia	16 (6.0)	1 (0.9)
Pain	16 (6.0)	6 (5.5)
Pneumonia	16 (6.0)	16 (14.7)
Aspartate aminotransferase increased	15 (5.6)	10 (9.2)
Oral herpes	15 (5.6)	9 (8.3)
Sinus tachycardia	15 (5.6)	6 (5.5)
Sepsis	14 (5.2)	8 (7.3)
Somnolence	14 (5.2)	1 (0.9)
White blood cell count decreased	14 (5.2)	6 (5.5)

Table S5. Serious Adverse Events

System Organ Class Preferred Term	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Any serious treatment-emergent adverse event	165 (61.8)	49 (45.0)
Blood and lymphatic system disorders	36 (13.5)	17 (15.6)
Febrile neutropenia	23 (8.6)	12 (11.0)
Histiocytosis haematophagic	3 (1.1)	0 (0.0)
Leukocytosis	3 (1.1)	0 (0.0)
Pancytopenia	3 (1.1)	1 (0.9)
Neutropenia	2 (0.7)	2 (1.8)
Anaemia	1 (0.4)	0 (0.0)
Febrile bone marrow aplasia	1 (0.4)	0 (0.0)
Lymphadenopathy	1 (0.4)	0 (0.0)
Agranulocytosis	0 (0.0)	1 (0.9)
Leukopenia	0 (0.0)	1 (0.9)
Thrombocytopenia	0 (0.0)	1 (0.9)
Cardiac disorders	6 (2.2)	3 (2.8)
Acute myocardial infarction	1 (0.4)	0 (0.0)
Atrial fibrillation	1 (0.4)	0 (0.0)
Atrial flutter	1 (0.4)	0 (0.0)
Cardiac arrest	1 (0.4)	1 (0.9)
Cardiac failure congestive	1 (0.4)	0 (0.0)
Cardiopulmonary failure	1 (0.4)	0 (0.0)
Pericardial effusion	1 (0.4)	0 (0.0)
Cardiac tamponade	0 (0.0)	1 (0.9)
Supraventricular tachycardia	0 (0.0)	1 (0.9)
Congenital, familial and genetic disorders	1 (0.4)	0 (0.0)
Aplasia	1 (0.4)	0 (0.0)
Gastrointestinal disorders	8 (3.0)	2 (1.8)
Abdominal pain	2 (0.7)	0 (0.0)
Vomiting	2 (0.7)	0 (0.0)
Gastric haemorrhage	1 (0.4)	0 (0.0)
Gastrointestinal necrosis	1 (0.4)	0 (0.0)
Haematemesis	1 (0.4)	0 (0.0)
Nausea	1 (0.4)	0 (0.0)
Stomatitis	1 (0.4)	0 (0.0)
Gastrointestinal inflammation	0 (0.0)	1 (0.9)
Mouth haemorrhage	0 (0.0)	1 (0.9)
Pancreatitis	0 (0.0)	1 (0.9)
General disorders and administration site conditions	27 (10.1)	2 (1.8)
Pyrexia	16 (6.0)	1 (0.9)
Multi-organ failure	4 (1.5)	1 (0.9)
Asthenia	2 (0.7)	0 (0.0)
General physical health deterioration	2 (0.7)	0 (0.0)
Chest pain	1 (0.4)	0 (0.0)
Death	1 (0.4)	0 (0.0)

System Organ Class Preferred Term	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Discomfort	1 (0.4)	0 (0.0)
Hyperthermia	1 (0.4)	0 (0.0)
Medical device complication	1 (0.4)	0 (0.0)
Oedema peripheral	1 (0.4)	0 (0.0)
Systemic inflammatory response syndrome	1 (0.4)	0 (0.0)
Hepatobiliary disorders	2 (0.7)	2 (1.8)
Cholelithiasis	1 (0.4)	0 (0.0)
Hepatitis	1 (0.4)	0 (0.0)
Acute hepatic failure	0 (0.0)	1 (0.9)
Cholestasis	0 (0.0)	1 (0.9)
Immune system disorders	11 (4.1)	0 (0.0)
Cytokine release syndrome	7 (2.6)	0 (0.0)
Acute graft versus host disease in skin	1 (0.4)	0 (0.0)
Anaphylactic shock	1 (0.4)	0 (0.0)
Graft versus host disease	1 (0.4)	0 (0.0)
Graft versus host disease in liver	1 (0.4)	0 (0.0)
Infections and infestations	75 (28.1)	33 (30.3)
Sepsis	13 (4.9)	7 (6.4)
Pneumonia	10 (3.7)	2 (1.8)
Septic shock	8 (3.0)	3 (2.8)
Bacterial sepsis	6 (2.2)	2 (1.8)
Device related infection	6 (2.2)	1 (0.9)
Bronchopulmonary aspergillosis	4 (1.5)	1 (0.9)
Neutropenic sepsis	3 (1.1)	1 (0.9)
Pseudomonal sepsis	3 (1.1)	1 (0.9)
Pseudomonas infection	3 (1.1)	1 (0.9)
Bacteraemia	2 (0.7)	3 (2.8)
Bacterial infection	2 (0.7)	0 (0.0)
Catheter site infection	2 (0.7)	0 (0.0)
Escherichia infection	2 (0.7)	0 (0.0)
Fungal sepsis	2 (0.7)	0 (0.0)
Gastroenteritis	2 (0.7)	0 (0.0)
Staphylococcal infection	2 (0.7)	1 (0.9)
Bronchitis	1 (0.4)	0 (0.0)
Cellulitis	1 (0.4)	0 (0.0)
Citrobacter infection	1 (0.4)	0 (0.0)
Device related sepsis	1 (0.4)	2 (1.8)
Encephalitis enteroviral	1 (0.4)	0 (0.0)
Fungaemia	1 (0.4)	0 (0.0)
Infection	1 (0.4)	0 (0.0)
Infection in an immunocompromised host	1 (0.4)	0 (0.0)
Influenza	1 (0.4)	0 (0.0)
Lower respiratory tract infection	1 (0.4)	0 (0.0)
Lower respiratory tract infection fungal	1 (0.4)	0 (0.0)
Lung infection	1 (0.4)	1 (0.9)
Mastoiditis	1 (0.4)	0 (0.0)

System Organ Class Preferred Term	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Meningitis bacterial	1 (0.4)	0 (0.0)
Mucormycosis	1 (0.4)	0 (0.0)
Muscle abscess	1 (0.4)	0 (0.0)
Osteomyelitis	1 (0.4)	0 (0.0)
Otitis media acute	1 (0.4)	0 (0.0)
Pneumonia bacterial	1 (0.4)	0 (0.0)
Pneumonia fungal	1 (0.4)	2 (1.8)
Pneumonia pseudomonal	1 (0.4)	0 (0.0)
Pneumonia respiratory syncytial viral	1 (0.4)	0 (0.0)
Progressive multifocal leukoencephalopathy	1 (0.4)	0 (0.0)
Pulmonary mycosis	1 (0.4)	0 (0.0)
Respiratory syncytial virus bronchiolitis	1 (0.4)	0 (0.0)
Sepsis syndrome	1 (0.4)	0 (0.0)
Sinusitis	1 (0.4)	0 (0.0)
Skin infection	1 (0.4)	0 (0.0)
Staphylococcal sepsis	1 (0.4)	0 (0.0)
Tooth infection	1 (0.4)	0 (0.0)
Abscess fungal	0 (0.0)	1 (0.9)
Brain abscess	0 (0.0)	1 (0.9)
Central nervous system abscess	0 (0.0)	1 (0.9)
Citrobacter sepsis	0 (0.0)	1 (0.9)
Enterococcal bacteraemia	0 (0.0)	1 (0.9)
Enterococcal infection	0 (0.0)	1 (0.9)
Fungal infection	0 (0.0)	1 (0.9)
Fusarium infection	0 (0.0)	1 (0.9)
Hepatosplenic candidiasis	0 (0.0)	1 (0.9)
Rhinovirus infection	0 (0.0)	1 (0.9)
Soft tissue infection	0 (0.0)	1 (0.9)
Streptococcal sepsis	0 (0.0)	1 (0.9)
Systemic candida	0 (0.0)	1 (0.9)
Injury, poisoning and procedural complications	15 (5.6)	1 (0.9)
Overdose	8 (3.0)	0 (0.0)
Accidental overdose	3 (1.1)	0 (0.0)
Fall	1 (0.4)	0 (0.0)
Medication error	1 (0.4)	0 (0.0)
Subdural haematoma	1 (0.4)	0 (0.0)
Subdural haemorrhage	1 (0.4)	0 (0.0)
Ankle fracture	0 (0.0)	1 (0.9)
Investigations	8 (3.0)	0 (0.0)
Blood bilirubin increased	2 (0.7)	0 (0.0)
Blood lactate dehydrogenase increased	1 (0.4)	0 (0.0)
CSF cell count abnormal	1 (0.4)	0 (0.0)
Platelet count decreased	1 (0.4)	0 (0.0)
Transaminases increased	1 (0.4)	0 (0.0)
Weight increased	1 (0.4)	0 (0.0)
White blood cell count decreased	1 (0.4)	0 (0.0)
White blood cell count increased	1 (0.4)	0 (0.0)

System Organ Class Preferred Term	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Metabolism and nutrition disorders	10 (3.7)	2 (1.8)
Tumour lysis syndrome	3 (1.1)	0 (0.0)
Hyperuricaemia	2 (0.7)	0 (0.0)
Hypophosphataemia	2 (0.7)	0 (0.0)
Hypercalcaemia	1 (0.4)	0 (0.0)
Hypokalaemia	1 (0.4)	0 (0.0)
Hypomagnesaemia	1 (0.4)	0 (0.0)
Lactic acidosis	1 (0.4)	1 (0.9)
Hyperkalaemia	0 (0.0)	1 (0.9)
Hypoglycaemia	0 (0.0)	1 (0.9)
Metabolic acidosis	0 (0.0)	1 (0.9)
Musculoskeletal and connective tissue disorders	5 (1.9)	1 (0.9)
Bone pain	3 (1.1)	0 (0.0)
Back pain	2 (0.7)	0 (0.0)
Osteitis	0 (0.0)	1 (0.9)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)	4 (1.5)	0 (0.0)
Acute lymphocytic leukaemia	1 (0.4)	0 (0.0)
Leukaemic infiltration extramedullary	1 (0.4)	0 (0.0)
Leukaemic infiltration pulmonary	1 (0.4)	0 (0.0)
Tumour associated fever	1 (0.4)	0 (0.0)
Nervous system disorders	19 (7.1)	4 (3.7)
Encephalopathy	4 (1.5)	0 (0.0)
Aphasia	3 (1.1)	0 (0.0)
Cerebral haemorrhage	1 (0.4)	0 (0.0)
Cognitive disorder	1 (0.4)	0 (0.0)
Depressed level of consciousness	1 (0.4)	0 (0.0)
Haemorrhage intracranial	1 (0.4)	2 (1.8)
Haemorrhagic stroke	1 (0.4)	0 (0.0)
Hemianopia	1 (0.4)	0 (0.0)
Hemiparesis	1 (0.4)	0 (0.0)
Hypoaesthesia	1 (0.4)	0 (0.0)
Intention tremor	1 (0.4)	0 (0.0)
Leukoencephalopathy	1 (0.4)	0 (0.0)
Neurological symptom	1 (0.4)	0 (0.0)
Paraesthesia	1 (0.4)	0 (0.0)
Seizure	1 (0.4)	1 (0.9)
Somnolence	1 (0.4)	0 (0.0)
Status epilepticus	1 (0.4)	0 (0.0)
Tremor	1 (0.4)	0 (0.0)
Generalised tonic-clonic seizure	0 (0.0)	1 (0.9)
Hemiplegia	0 (0.0)	1 (0.9)
Psychiatric disorders	2 (0.7)	0 (0.0)
Completed suicide	1 (0.4)	0 (0.0)
Mental status changes	1 (0.4)	0 (0.0)

System Organ Class Preferred Term	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Renal and urinary disorders	4 (1.5)	3 (2.8)
Acute kidney injury	3 (1.1)	2 (1.8)
Calculus ureteric	1 (0.4)	0 (0.0)
Urinary bladder haemorrhage	0 (0.0)	1 (0.9)
Respiratory, thoracic and mediastinal disorders	15 (5.6)	4 (3.7)
Acute respiratory failure	2 (0.7)	0 (0.0)
Dyspnoea	2 (0.7)	0 (0.0)
Epistaxis	2 (0.7)	0 (0.0)
Haemoptysis	2 (0.7)	0 (0.0)
Hypoxia	1 (0.4)	0 (0.0)
Lung infiltration	1 (0.4)	1 (0.9)
Pleural effusion	1 (0.4)	1 (0.9)
Pneumonitis	1 (0.4)	0 (0.0)
Pulmonary oedema	1 (0.4)	0 (0.0)
Respiratory arrest	1 (0.4)	0 (0.0)
Respiratory failure	1 (0.4)	2 (1.8)
Stridor	1 (0.4)	0 (0.0)
Pneumothorax	0 (0.0)	1 (0.9)
Skin and subcutaneous tissue disorders	2 (0.7)	0 (0.0)
Alopecia	1 (0.4)	0 (0.0)
Skin ulcer	1 (0.4)	0 (0.0)
Surgical and medical procedures	1 (0.4)	0 (0.0)
Catheter placement	1 (0.4)	0 (0.0)
Vascular disorders	1 (0.4)	4 (3.7)
Aortic occlusion	1 (0.4)	0 (0.0)
Hypotension	0 (0.0)	2 (1.8)
Peripheral artery thrombosis	0 (0.0)	1 (0.9)
Shock	0 (0.0)	1 (0.9)

Table S6. Grade ≥3 Adverse Events of Interest

Category Preferred Term*	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Any grade ≥3 adverse event of interest	189 (70.8)	87 (79.8)
Acute pancreatitis	1 (0.4)	1 (0.9)
Pancreatitis	1 (0.4)	1 (0.9)
Central neuropsychiatric events due to direct neurotoxicities	25 (9.4)	9 (8.3)
Encephalopathy	4 (1.5)	0 (0.0)
Confusional state	3 (1.1)	0 (0.0)
Somnolence	3 (1.1)	0 (0.0)
Cognitive disorder	2 (0.7)	0 (0.0)
Seizure	2 (0.7)	3 (2.8)
Agitation	1 (0.4)	1 (0.9)
Anxiety	1 (0.4)	0 (0.0)
Aphasia	1 (0.4)	0 (0.0)
Asterixis	1 (0.4)	0 (0.0)
Central nervous system leukaemia	1 (0.4)	0 (0.0)
Completed suicide	1 (0.4)	0 (0.0)
Depressed level of consciousness	1 (0.4)	1 (0.9)
Dizziness	1 (0.4)	0 (0.0)
Dysarthria	1 (0.4)	0 (0.0)
Extrapyramidal disorder	1 (0.4)	0 (0.0)
Headache	1 (0.4)	3 (2.8)
Insomnia	1 (0.4)	0 (0.0)
Leukoencephalopathy	1 (0.4)	0 (0.0)
Mydriasis	1 (0.4)	0 (0.0)
Neuralgia	1 (0.4)	0 (0.0)
Neurological symptom	1 (0.4)	0 (0.0)
Progressive multifocal leukoencephalopathy	1 (0.4)	0 (0.0)
Status epilepticus	1 (0.4)	0 (0.0)
Tremor	1 (0.4)	0 (0.0)
Generalised tonic-clonic seizure	0 (0.0)	1 (0.9)
Hemiplegia	0 (0.0)	1 (0.9)
Presyncope	0 (0.0)	1 (0.9)
Syncope	0 (0.0)	2 (1.8)
Cytokine release syndrome	13 (4.9)	0 (0.0)
Cytokine release syndrome	9 (3.4)	0 (0.0)
Histiocytosis haematophagic	4 (1.5)	0 (0.0)
Decreased immunoglobulins	7 (2.6)	0 (0.0)
Hypogammaglobulinaemia	5 (1.9)	0 (0.0)
Blood immunoglobulin G decreased	1 (0.4)	0 (0.0)
Immunoglobulins decreased	1 (0.4)	0 (0.0)

Category Preferred Term*	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Elevated Liver Enzyme	34 (12.7)	16 (14.7)
Alanine aminotransferase increased	15 (5.6)	9 (8.3)
Aspartate aminotransferase increased	8 (3.0)	3 (2.8)
Gamma-glutamyltransferase increased	8 (3.0)	4 (3.7)
Blood bilirubin increased	5 (1.9)	2 (1.8)
Hyperbilirubinaemia	5 (1.9)	2 (1.8)
Transaminases increased	5 (1.9)	0 (0.0)
Hepatic enzyme increased	2 (0.7)	0 (0.0)
Liver function test abnormal	0 (0.0)	1 (0.9)
Embolic and Thrombotic events	4 (1.5)	2 (1.8)
Acute myocardial infarction	1 (0.4)	0 (0.0)
Haemorrhagic stroke	1 (0.4)	0 (0.0)
Thrombosis in device	1 (0.4)	0 (0.0)
Transient ischaemic attack	1 (0.4)	0 (0.0)
Hemiplegia	0 (0.0)	1 (0.9)
Peripheral artery thrombosis	0 (0.0)	1 (0.9)
Infections	91 (34.1)	57 (52.3)
Sepsis	13 (4.9)	7 (6.4)
Device related infection	11 (4.1)	5 (4.6)
Pneumonia	11 (4.1)	11 (10.1)
Septic shock	8 (3.0)	5 (4.6)
Bacterial sepsis	7 (2.6)	2 (1.8)
Bronchopulmonary aspergillosis	6 (2.2)	1 (0.9)
Cellulitis	4 (1.5)	2 (1.8)
Lung infection	3 (1.1)	1 (0.9)
Neutropenic sepsis	3 (1.1)	2 (1.8)
Pseudomonal sepsis	3 (1.1)	1 (0.9)
Urinary tract infection	3 (1.1)	0 (0.0)
Bacteraemia	2 (0.7)	6 (5.5)
Bacterial infection	2 (0.7)	2 (1.8)
Catheter site infection	2 (0.7)	1 (0.9)
Cytomegalovirus infection	2 (0.7)	1 (0.9)
Enterococcal bacteraemia	2 (0.7)	3 (2.8)
Escherichia infection	2 (0.7)	0 (0.0)
Fungal infection	2 (0.7)	3 (2.8)
Fungal sepsis	2 (0.7)	0 (0.0)
Gastroenteritis	2 (0.7)	0 (0.0)
Infection	2 (0.7)	1 (0.9)
Mucormycosis	2 (0.7)	0 (0.0)
Pneumonia bacterial	2 (0.7)	0 (0.0)
Pseudomonas infection	2 (0.7)	1 (0.9)
Pulmonary mycosis	2 (0.7)	0 (0.0)

Category Preferred Term*	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Skin infection	2 (0.7)	0 (0.0)
Staphylococcal infection	2 (0.7)	1 (0.9)
Candida infection	1 (0.4)	1 (0.9)
Citrobacter infection	1 (0.4)	0 (0.0)
Clostridium bacteraemia	1 (0.4)	0 (0.0)
Device related sepsis	1 (0.4)	3 (2.8)
Encephalitis enteroviral	1 (0.4)	0 (0.0)
Fungaemia	1 (0.4)	1 (0.9)
Gastrointestinal infection	1 (0.4)	0 (0.0)
Herpes zoster	1 (0.4)	0 (0.0)
Infection in an immunocompromised host	1 (0.4)	0 (0.0)
Influenza	1 (0.4)	0 (0.0)
Lower respiratory tract infection	1 (0.4)	0 (0.0)
Lower respiratory tract infection fungal	1 (0.4)	0 (0.0)
Mastoiditis	1 (0.4)	0 (0.0)
Meningitis aseptic	1 (0.4)	0 (0.0)
Meningitis bacterial	1 (0.4)	0 (0.0)
Metapneumovirus infection	1 (0.4)	0 (0.0)
Muscle abscess	1 (0.4)	0 (0.0)
Oral herpes	1 (0.4)	0 (0.0)
Osteomyelitis	1 (0.4)	0 (0.0)
Otitis media acute	1 (0.4)	0 (0.0)
Periorbital cellulitis	1 (0.4)	0 (0.0)
Pharyngitis	1 (0.4)	0 (0.0)
Pleural infection	1 (0.4)	0 (0.0)
Pneumocystis jirovecii pneumonia	1 (0.4)	0 (0.0)
Pneumonia fungal	1 (0.4)	2 (1.8)
Pneumonia pseudomonal	1 (0.4)	0 (0.0)
Pneumonia respiratory syncytial viral	1 (0.4)	0 (0.0)
Postoperative wound infection	1 (0.4)	0 (0.0)
Progressive multifocal leukoencephalopathy	1 (0.4)	0 (0.0)
Sepsis syndrome	1 (0.4)	0 (0.0)
Sinusitis	1 (0.4)	1 (0.9)
Sinusitis fungal	1 (0.4)	0 (0.0)
Staphylococcal bacteraemia	1 (0.4)	0 (0.0)
Staphylococcal sepsis	1 (0.4)	1 (0.9)
Tooth infection	1 (0.4)	0 (0.0)
Urinary tract infection bacterial	1 (0.4)	0 (0.0)
Abscess fungal	0 (0.0)	1 (0.9)
Abscess intestinal	0 (0.0)	1 (0.9)
Bacterial pyelonephritis	0 (0.0)	1 (0.9)
Brain abscess	0 (0.0)	1 (0.9)
Candiduria	0 (0.0)	1 (0.9)
Central nervous system abscess	0 (0.0)	1 (0.9)
Citrobacter sepsis	0 (0.0)	1 (0.9)

Category Preferred Term*	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Clostridium difficile infection	0 (0.0)	1 (0.9)
Diverticulitis	0 (0.0)	1 (0.9)
Enterococcal infection	0 (0.0)	1 (0.9)
Escherichia bacteraemia	0 (0.0)	1 (0.9)
Escherichia sepsis	0 (0.0)	1 (0.9)
Fusarium infection	0 (0.0)	1 (0.9)
Gastroenteritis salmonella	0 (0.0)	1 (0.9)
Hepatosplenic candidiasis	0 (0.0)	1 (0.9)
Klebsiella infection	0 (0.0)	1 (0.9)
Lip infection	0 (0.0)	1 (0.9)
Meningitis enterococcal	0 (0.0)	1 (0.9)
Oral candidiasis	0 (0.0)	1 (0.9)
Periodontitis	0 (0.0)	1 (0.9)
Pseudomonal bacteraemia	0 (0.0)	1 (0.9)
Soft tissue infection	0 (0.0)	1 (0.9)
Streptococcal bacteraemia	0 (0.0)	2 (1.8)
Streptococcal sepsis	0 (0.0)	2 (1.8)
Subcutaneous abscess	0 (0.0)	1 (0.9)
Systemic candida	0 (0.0)	1 (0.9)
Infusion reaction considering duration	9 (3.4)	1 (0.9)
Pyrexia	5 (1.9)	0 (0.0)
Cytokine release syndrome	3 (1.1)	0 (0.0)
Hypertension	1 (0.4)	0 (0.0)
Hypotension	0 (0.0)	1 (0.9)
Lymphopenia	4 (1.5)	4 (3.7)
Lymphocyte count decreased	3 (1.1)	4 (3.7)
Lymphopenia	1 (0.4)	0 (0.0)
Medication errors	4 (1.5)	0 (0.0)
Accidental overdose	3 (1.1)	0 (0.0)
Medication error	1 (0.4)	0 (0.0)
Neutropenia	101 (37.8)	63 (57.8)
Febrile neutropenia	57 (21.3)	38 (34.9)
Neutropenia	47 (17.6)	29 (26.6)
Neutrophil count decreased	10 (3.7)	11 (10.1)
Neutropenic sepsis	3 (1.1)	2 (1.8)
Cyclic neutropenia	1 (0.4)	0 (0.0)
Agranulocytosis	0 (0.0)	2 (1.8)

Category Preferred Term*	Blinatumomab (N = 267) no. (%)	Chemotherapy (N = 109) no. (%)
Neutropenic colitis	0 (0.0)	1 (0.9)
Progressive multifocal leukoencephalopathy	2 (0.7)	0 (0.0)
Leukoencephalopathy	1 (0.4)	0 (0.0)
Progressive multifocal leukoencephalopathy	1 (0.4)	0 (0.0)
Tumour lysis syndrome	8 (3.0)	1 (0.9)
Tumour lysis syndrome	8 (3.0)	1 (0.9)

*Preferred terms for events of interest are not mutually exclusive between categories.