LET'S TALK ABOUT CAR T-CELL THERAPY AS A TREATMENT OPTION: BLOOD CANCERS

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University of Michigan Health
Ann Arbor, MI

WELCOMING REMARKS
LET'S TALK ABOUT CAR T-CELL THERAPY AS A TREATMENT OPTION: BLOOD CANCERS

Lizette Figueroa-Rivera, MA
Sr. Director, Education & Support
The Leukemia & Lymphoma Society
FACULTY

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DISCLOSURES

Monalisa Ghosh, MD has financial relationship(s) with:
BMS, Kite/Gilead, Miltenyi and Takeda (Grant Support) Cabaletta Bio (Consultant)
Introduction to CAR T-cells

- History
- Structure and Function
- FDA-approved products
What are T-cells and what do they have to do with cancer?

- **CAR T-cell**
  - Genetically engineered T-cell
  - Designed to target a structure on the surface of cancer cells
  - **CAR** = Chimeric Antigen Receptor

- **Function**
  - CAR T-cells divide in the bloodstream after being infused through a vein
  - They make many more of themselves
  - Each CAR T-cell can kill thousands of tumor cells
  - Can last for years in the body
History of CAR T-cell Therapy

- First studied in B-cell acute lymphoblastic leukemia (B-ALL) and non-Hodgkin’s B-cell lymphoma

- First simple CAR T was developed in 1993

- First FDA approved drug:
  - Tisagenlecleucel (Kymriah) for pediatric and young adult ALL
  - 6 products FDA approved for acute B-cell leukemia, non-Hodgkin’s lymphoma, and multiple myeloma over 5 years
Timeline of FDA Approved CAR T-cell Therapies

**Tisagenlecleucel (Kymriah)**

- Patients up to 25 years of age with B-cell precursor acute lymphoblastic leukemia (B-ALL) that is either refractory or in a second or later relapse
- Adult patients with relapsed or refractory large B-cell lymphoma—after two or more lines of systemic therapy—including: diffuse large B-cell lymphoma (DLBCL) not otherwise specified (NOS), high-grade B-cell lymphoma, and DLBCL arising from follicular lymphoma (FL)
- Adult patients with relapsed or refractory FL after two or more lines of systemic therapy
Axicabtagene ciloleucel (Yescarta)

- Adult patients with large B-cell lymphoma that is refractory to first-line chemoimmunotherapy or that relapses within 12 months of first-line chemoimmunotherapy
- Adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, including diffuse large B-cell lymphoma (DLBCL) not otherwise specified (NOS), primary mediastinal large B-cell lymphoma, high grade B-cell lymphoma, and DLBCL arising from follicular lymphoma (FL)
- Adult patients with relapsed or refractory FL after two or more lines of systemic therapy

Brexucabtagene autoleucel (Tecartus)

- Relapsed or refractory mantle cell lymphoma (MCL)
- Relapsed or refractory B-cell precursor acute lymphoblastic leukemia (ALL)
Lisocabtagene maraleucel (Breyanzi)

- Refractory disease to first-line chemoimmunotherapy or relapse within 12 months of first-line chemoimmunotherapy; or
- Refractory disease to first-line chemoimmunotherapy or relapse after first-line chemoimmunotherapy and are not eligible for hematopoietic stem cell transplantation (HSCT) due to comorbidities or age; or
- Relapsed or refractory disease after two or more lines of systemic therapy

Idecabtagene vicleucel (Abecma)

- Relapsed or refractory multiple myeloma after four or more prior lines of therapy, including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 monoclonal antibody.
Ciltacabtagene autoleucel (Carvykti)

- Relapsed or refractory multiple myeloma after four or more prior lines of therapy, including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 monoclonal antibody.

Source: Cappell, Nature Reviews Clinical Oncology, June 2023
Manufacturing CAR T-cells

- Individualized products
- All FDA-approved products come from the person’s own cells
- All require 4-6 hour apheresis (cell collection) procedure to collect one’s T-cells
- Manufacture time ranges from 3-6 weeks
- Cells cannot usually be infused more than once
- For some products, cells must be collected and shipped fresh to the manufacturer.

How well do CAR T-cell therapies work?

- Acute lymphoblastic leukemia (ALL)
- Diffuse large B-cell lymphoma (DLBCL)
- Follicular lymphoma (FL)
- Mantle cell lymphoma (MCL)
- Multiple Myeloma (MM)
### Pivotal CAR T-cell Therapy Trials in ALL

<table>
<thead>
<tr>
<th>Product</th>
<th>Tisagenlecleucel</th>
<th>Brexucabtagene autoleucel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved indication</td>
<td>ALL (up to 25 years old)</td>
<td>ALL (≥18 years, median 40)</td>
</tr>
<tr>
<td>Trial</td>
<td>EUANA</td>
<td>ZUMA-3</td>
</tr>
<tr>
<td>Costimulatory Domain</td>
<td>4-1BB</td>
<td>CD28</td>
</tr>
<tr>
<td>Number of patients</td>
<td>n=92</td>
<td>n=71</td>
</tr>
<tr>
<td>CRS</td>
<td>Total=77% Severe=46%</td>
<td>Total=89% Severe=24%</td>
</tr>
<tr>
<td>Neurotoxicity</td>
<td>Total=40% Severe=13%</td>
<td>Total=60% Severe=25%</td>
</tr>
<tr>
<td><strong>Response Rate</strong></td>
<td><strong>ORR at 3 months: 83%</strong></td>
<td><strong>ORR at 3 mos: 71% CR or CRi (56% CR)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>OS 12 months: 76%</strong></td>
<td><strong>Median OS: 18.2 months</strong></td>
</tr>
<tr>
<td></td>
<td><strong>RFS 12 months: 59%</strong></td>
<td><strong>Median RFS: 11.6 months</strong></td>
</tr>
</tbody>
</table>

### Pivotal CAR T-cell Therapy Trials in DLBCL

<table>
<thead>
<tr>
<th>Product</th>
<th>Tisagenlecleucel</th>
<th>Axicabtagene ciloleucel</th>
<th>Lisocabtagene maraleucel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved indication</td>
<td>DLBCL (&gt;18): &gt;2 lines</td>
<td>DLBCL (&gt;18): &gt;2 lines, &gt;1 line in primary ref or early relapse</td>
<td>DLBCL (&gt;18): &gt;2 lines</td>
</tr>
<tr>
<td>Trial</td>
<td>JULIET (phase II)</td>
<td>ZUMA-1 (phase II)</td>
<td>TRANSCEND001 (phase II)</td>
</tr>
<tr>
<td>Costimulatory Domain</td>
<td>4-1BB</td>
<td>CD28</td>
<td>4-1BB</td>
</tr>
<tr>
<td>Number of patients</td>
<td>n=81 (JULIET)</td>
<td>n=101</td>
<td>n=268</td>
</tr>
<tr>
<td>CRS</td>
<td>Total=58% Severe=23%</td>
<td>Total=94% Severe=13%</td>
<td>Total=46% Severe=4%</td>
</tr>
<tr>
<td>Neurotoxicity</td>
<td>Total=58% Severe=12%</td>
<td>Total=84% Severe=31%</td>
<td>Total=35% Severe=12%</td>
</tr>
<tr>
<td><strong>Response Rate</strong></td>
<td><strong>DLBCL ORR 3 mos: 52%</strong>, CR 32%, CR 40% 12 months**</td>
<td><strong>ORR at 3 mos: 82%</strong>, CR 54% <strong>Median f/u 15.4mos: 40% CR</strong></td>
<td><strong>ORR at 3 mos: 74%</strong>, CR 54%, CR 65% at 6 mos, CR 62% at 9 months**</td>
</tr>
</tbody>
</table>
## Practice-Changing Phase III CAR T-cell Therapy Trials in DLBCL: CAR T-cell therapy versus standard (autologous stem cell transplant)

<table>
<thead>
<tr>
<th>Product</th>
<th>Tisagenlecleucel</th>
<th>Axicabtagene cilooleucel</th>
<th>Lisocabtagene maraleucel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Population</td>
<td>DLBCL (&gt;18): primary refractory or relapsed within 12 months</td>
<td>DLBCL (&gt;18): primary refractory or relapsed within 12 months</td>
<td>DLBCL (&gt;18): primary refractory or relapsed within 12 months</td>
</tr>
<tr>
<td>Trial</td>
<td>BELINDA</td>
<td>ZUMA-7</td>
<td>TRANSFORM</td>
</tr>
<tr>
<td>ORR – CAR T arm</td>
<td>75%</td>
<td>83%</td>
<td>86%</td>
</tr>
<tr>
<td>ORR – SOC arm</td>
<td>54%</td>
<td>50%</td>
<td>48%</td>
</tr>
<tr>
<td>EFS – CAR T arm</td>
<td>3 months</td>
<td>8.3 months</td>
<td>10.1 months</td>
</tr>
<tr>
<td>PFS – CAR T arm</td>
<td>--</td>
<td>14.7 months</td>
<td>14.8 months</td>
</tr>
<tr>
<td>EFS – SOC arm</td>
<td>3 months</td>
<td>2 months</td>
<td>2.3 months</td>
</tr>
<tr>
<td>PFS – SOC arm</td>
<td>--</td>
<td>3.7 months</td>
<td>5.7 months</td>
</tr>
</tbody>
</table>

## CAR T-Cell Therapy in Follicular Lymphoma and Mantle Cell Lymphoma

<table>
<thead>
<tr>
<th>Product</th>
<th>Axicabtagene cilooleucel</th>
<th>Brexucabtagene autoleucel</th>
<th>Tisagenlecleucel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved indication</td>
<td>FL (≥18 years): &gt;2 lines</td>
<td>MCL (≥18 years): &gt;2 lines</td>
<td>FL (≥18 years): &gt;2 lines</td>
</tr>
<tr>
<td>Trial</td>
<td>ZUMA-5 (phase II)</td>
<td>ZUMA-2 (phase II)</td>
<td>ELARA (phase II)</td>
</tr>
<tr>
<td>Costimulatory Domain</td>
<td>CD28</td>
<td>CD28</td>
<td>4-1BB</td>
</tr>
<tr>
<td>Number of patients</td>
<td>n=153 (84 with FL)</td>
<td>n=74</td>
<td>n=97</td>
</tr>
<tr>
<td>CRS</td>
<td>Total=78% Severe=6%</td>
<td>Total=91% Severe=18%</td>
<td>Total=49% Severe=0%</td>
</tr>
<tr>
<td>Neurotoxicity</td>
<td>Total=56% Severe=15%</td>
<td>Total=81% Severe=37%</td>
<td>Total=37% Severe=1%</td>
</tr>
<tr>
<td>Response Rate</td>
<td>ORR at 3 months (FL): 94% (79% CR)</td>
<td>ORR at 12 months: 87% CR at 12 months: 62% PFS at 12 months: 67% OS at 12 months: 83%</td>
<td>ORR at 3 months: 86% CR at 3 months: 69%</td>
</tr>
</tbody>
</table>
### CAR-T Cell Therapy in Multiple Myeloma (BCMA Targeted)

<table>
<thead>
<tr>
<th>Product</th>
<th>Idecabtagene Vicleucel</th>
<th>Ciltacabtagene autoleucel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved indication</td>
<td>MM (≥18 years): &gt;4 lines</td>
<td>MM (≥18 years): &gt; 4 lines</td>
</tr>
<tr>
<td>Trial</td>
<td>KarMMa (phase III)</td>
<td>CARTITUDE (phase III)</td>
</tr>
<tr>
<td>Costimulatory Domain</td>
<td>4-1BB</td>
<td>4-1BB</td>
</tr>
<tr>
<td>Number of patients</td>
<td>n=124</td>
<td>n=97</td>
</tr>
<tr>
<td>CRS</td>
<td>Total=85% Severe=9%</td>
<td>Total=95% Severe=5%</td>
</tr>
<tr>
<td>Neurotoxicity</td>
<td>Total=28% Severe=4%</td>
<td>Total=26% Severe=11% *parkinsonian symptoms seen</td>
</tr>
<tr>
<td>Response Rate</td>
<td>ORR at 13 months: 72% VGPR at 13 months: 54% sCR at 13 months: 29% MRD negative: 93% Median PFS: 11.1 months Median OS: 24 months</td>
<td>ORR at 18 months: 84% VGPR at 18 months: 14% sCR at 18 months: 67% Median DOR: 21.8 months</td>
</tr>
</tbody>
</table>

### Cell Therapies for Non-cancerous Diseases

- Viral-directed cytotoxic T-lymphocytes (EBV, BK virus, CMV)
- Sickle cell disease
- Autoimmune diseases
- Surgical interventions: cardiac, ocular, spinal injury recovery
- Renal transplant: combined with stem cell transplant
- Solid organ transplants to mediate rejection
What are the major side effects of CAR T-cell therapy?

- Cytokine release syndrome
- Neurologic symptoms
- Low antibody (Ig) levels
- Low blood counts
- Infections
- Secondary cancers?

High Efficacy
Potentially High Toxicity

High cost! $373,000 – 475,000 for one dose
Symptoms of Cytokine Release Syndrome (CRS)

- **Fever** – most common
- **Hypotension** (low blood pressure) – somewhat common
- **Hypoxia** (low blood oxygen levels) – less common

Rare:
- Arrhythmias, cardiomyopathy
- Organ failure (renal, hepatic)
- HLH
- Coagulopathies

Treated with:
- Supportive care (IV fluids, Tylenol, oxygen)
- Tocilizumab (anti IL-6 therapy)
- Steroids

Mechanism of Cytokine Release Syndrome

- CAR T-cells are activated upon binding tumor cells
- Recruit other immune cells via “cytokines”
- Other immune cells (macrophages, monocytes) release cytokines which cause inflammation
Treatment of CRS: General Principles

- Treatment:
  - Supportive care
  - Anti-IL-6 therapy (tocilizumab or siltuximab)
  - Corticosteroids (like dexamethasone)

- Tociluzumab:
  - Use not correlated with tumor response

- Corticosteroids:
  - Try to avoid because it kills/impairs the CAR-T cells; correlated with less tumor responsiveness

Consensus CRS Grading System

<table>
<thead>
<tr>
<th>CRS Parameter</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever* With Hypotension</td>
<td>Temperature ≥ 38°C</td>
<td>Temperature ≥ 38°C</td>
<td>Temperature ≥ 38°C</td>
<td>Temperature ≥ 38°C</td>
</tr>
<tr>
<td>And/or Hypoxia</td>
<td>None</td>
<td>Not requiring vasoressors</td>
<td>Requiring a vasoressor with or without vasoressor</td>
<td>Requiring multiple vasoressors (excluding vasoressor)</td>
</tr>
<tr>
<td></td>
<td>Requiring low-flow nasal cannula or blow-by</td>
<td>Requiring high-flow nasal cannula, facemask, nonbreather mask, or Venturi mask</td>
<td>Requiring positive pressure (eg, CPAP, BIPAP, intubation and mechanical ventilation)</td>
<td></td>
</tr>
</tbody>
</table>

Organ toxicities associated with CRS may be graded according to CTCAE v5.0 but they do not influence CRS grading.

* Fever is defined as temperature ≥38°C not attributable to any other cause. In patients who have CRS then receive antipyretics or antiinflammatory therapy such as tocilizumab or steroids, fever is no longer required to grade subsequent CRS severity. In this case, CRS grading is driven by hypotension and/or hypoxia.

† CRS grade is determined by the more severe event: hypotension or hypoxia not attributable to any other cause. For example, a patient with temperature of 39.5°C, hypotension requiring 1 vasoressor, and hypoxia requiring low-flow nasal cannula is classified as grade 3 CRS.

‡ Low-flow nasal cannula is defined as oxygen delivered at ≤6 L/minute. Low-flow also includes blow-by oxygen delivery, sometimes used in pediatrics. High-flow nasal cannula is defined as oxygen delivered at >6 L/minute.
Neurologic Toxicity/Immune Effector Cell Associated Neurologic Syndrome (ICANS)

- **Types**
  - Early: concurrent with CRS and high fevers
  - Delayed: as CRS is resolving or following resolution of CRS
  - In absence of CRS

- **Onset and duration**
  - Majority occurs within 2 weeks (few cases up to 8 weeks post cell infusion)
  - Most events are transient (median duration: 5 days)
  - Median onset 5-7 days

- **Clinical Presentation**
  - Headache, encephalopathy, delirium, anxiety, tremor
  - Other manifestations: disturbance in consciousness, seizures, disorientation, confusion, agitation, aphasia

Mechanism of ICANs

- Caused by cytokines entering the brain and causing inflammation
- Symptoms may include:
  - Confusion
  - Difficulty speaking
  - Headaches
  - Bleeding in the brain
  - Seizures
  - Loss of consciousness
- Treatment: Steroids
Consensus ICANS Grading System

**Table 1**

<table>
<thead>
<tr>
<th>Neurotoxicity Domain</th>
<th>Grade 1</th>
<th>Grade 2</th>
<th>Grade 3</th>
<th>Grade 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE score</td>
<td>7-9</td>
<td>3-6</td>
<td>0-2</td>
<td>0</td>
</tr>
<tr>
<td>Depressed level of consciousness</td>
<td>Awakens spontaneously</td>
<td>Awakens to voice</td>
<td>Awakens only to tactile stimulus</td>
<td>0 (patient is un arousable and unable to perform IEC)</td>
</tr>
<tr>
<td>Seizure</td>
<td>N/A</td>
<td>N/A</td>
<td>Any clinical seizure focal or generalized that resolves rapidly or nonconvulsive seizures on EEG that resolve with intervention</td>
<td>N/A</td>
</tr>
<tr>
<td>Motor findings</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Elevated ICP/cerebral edema</td>
<td>N/A</td>
<td>N/A</td>
<td>Deep focal motor weakness such as hemiparesis or paraparesis</td>
<td>Focal local edema on neuroimaging</td>
</tr>
</tbody>
</table>

**Table 2**

<table>
<thead>
<tr>
<th>Encephalopathy Assessment Tools for Grading of ICANS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CARTOX</strong> (12)</td>
</tr>
<tr>
<td>Orientation: orientation to year, month, city, hospital, president/prime minister of country of residence: 5 points</td>
</tr>
<tr>
<td>Naming: ability to name 3 objects (eg, point to clock, pen, button): 3 points</td>
</tr>
<tr>
<td>Writing: ability to write a standard sentence (eg, “Our national bird is the bald eagle”): 1 point</td>
</tr>
<tr>
<td>Attention: ability to count backwards from 100 by 10: 1 point</td>
</tr>
</tbody>
</table>

| **ICE**                                      |
| Orientation: orientation to year, month, city, hospital: 4 points |
| Naming: ability to name 3 objects (eg, point to clock, pen, button): 3 points |
| Following commands: ability to follow simple commands (eg, “Show me 2 fingers” or “Close your eyes and stick out your tongue”): 1 point |
| Writing: ability to write a standard sentence (eg, “Our national bird is the bald eagle”): 1 point |
| Attention: ability to count backwards from 100 by 10: 1 point |

Risk of Secondary Cancers

**F.D.A. Issues Warning of Cancer Risk Linked to CAR-T Therapies**

The agency has reviewed reports of cancer patients whose treatments resulted in the development of secondary blood cancers. Several companies will be required to carry the new warning.

- Very small number of T-cell lymphomas and myelodysplastic syndrome reported several months to years after CAR T-cell therapy
- No evidence at this point to directly link CAR T to secondary cancers
- Benefits still far outweigh the risks

Source: New York Times
Emerging Immune Effector Cell Therapies

Allogeneic CAR T-cells
NK Cells
Umbilical cord derived cells

Autologous CAR T-cells – Current Available Products

• Benefits
  • No risk of graft versus host disease
  • Potentially longer persistence
  • Low risk of rejection

• Challenges
  • Exhausted T-cells
  • Long manufacturing time (3-6 weeks)
  • High manufacturing costs due to individualized production
  • People may develop apheresis-related side effects
  • Potential for collecting circulating tumor cells in the apheresis product
Allogeneic CAR T-cells (from a Donor)

- **Benefits**
  - Derived from healthy donors with healthy immune systems
  - Less exhausted T-cells
  - “Off-the-shelf” product available immediately
  - Reduced manufacturing costs
- **Challenges**
  - Decreased persistence due to rejection by the host immune system
  - Risk of graft versus host disease

Natural Killer CAR Cells

- **Benefits**
  - Can be obtained from 3rd party donors
  - Excellent natural killing function
  - Multiple potential sources
  - No risk of graft versus host disease
- **Challenges**
  - Limitations in tumor infiltration
  - May be subject to checkpoint blockade
Other IEC Therapies

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK cells</td>
<td>Innate killing capacity, no GvHD, lower risk of off-target toxicity (MHC-1 mediated)</td>
<td>Decreased ability to penetrate tumor, persistence</td>
</tr>
<tr>
<td>iNKT cells</td>
<td>Killing via CAR or TCR, no GvHD, CNS activity</td>
<td>More challenging to isolate, persistence, more susceptible to LD chemotherapy</td>
</tr>
<tr>
<td>δT-cells</td>
<td>MHC-independent killing, no GvHD</td>
<td>Transduction, persistence, subsets might be immunosuppressive</td>
</tr>
<tr>
<td>iPSC</td>
<td>Unlimited replication, easier to scale up production</td>
<td>Risk of GvHD unless TCR is removed, persistence</td>
</tr>
<tr>
<td>SC/M early T-cell memory cells</td>
<td>Improved engraftment and expansion, less exhaustion (less differentiated phenotype)</td>
<td>Persistence and decreased cytotoxicity compared to other T-cell subsets</td>
</tr>
</tbody>
</table>

Future Improvements in Immune Effector Cell Therapy

Improving IEC efficacy
Decreasing toxicities
Mechanisms of Resistance to IEC Therapy

Major Barriers:
- Antigen Escape
- Tumor microenvironment preventing T-cell trafficking/infiltration
- T-cell exhaustion
- IEC persistence

Challenges of IEC Therapy

- Efficacy
  - Reach tumor tissue
  - Interact with tumor-associated antigens on tumor cells
  - Overcome the immunosuppressive tumor microenvironment
  - Proliferate, kill tumor cells, persist over time

- Minimizing toxicities
- Cost and Logistics
Overcoming Toxicities

• Treatment
  • Siltuximab (anti-IL6 monoclonal antibody)
  • Anakinra (anti-IL1R monoclonal antibody)
  • Ruxolitinib (JAK inhibitor)

• Prophylaxis
  • IL6: tocilizumab, siltuximab – ongoing trials
  • Lenzilizumab (anti-GMCSF monoclonal antibody) – promising pre-clinical data, phase 2/3 trial ongoing

• CAR Construct/Cells used
  • Altering co-stimulatory domain
  • Engineering cells to release anti-cytokine antibodies
  • Suicide genes/safety switches
  • Use of NK cells

Summary

• CAR T-cell therapy has been shown to be highly efficacious in hematologic malignancies

• Barriers remain, including:
  • Resistance to therapy due to tumor microenvironment and issues with T-cell effector function
  • Toxicities
  • Cost and logistics

• New IEC therapies are being developed to improve function and delivery to patients
  • Different cell sources
  • Strategies to improve efficacy including combination therapy
  • Strategies to mitigate toxicities
  • On-site manufacturing
THANK YOU

To the patients, families, staff.

ASK A QUESTION
LET'S TALK ABOUT CAR T-CELL THERAPY AS A TREATMENT OPTION: BLOOD CANCERS

Ask a question by phone:
Press star (*) then the number 1 on your keypad.

Ask a question by web:
Click “Ask a question”
Type your question
Click “Submit”

Due to time constraints, we can only take one question per person. Once you've asked your question, the operator will transfer you back into the audience line.
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Chat live online: www.LLS.org/InformationSpecialists
Monday to Friday, 10 a.m. to 7 p.m. ET
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Patient Podcast

The Bloodline with LLS is here to remind you that after a diagnosis comes hope. To listen to an episode, please visit www.TheBloodline.org
The Leukemia & Lymphoma Society (LLS) offers the following financial assistance programs to help individuals with blood cancers:

www.LLS.org/Finances

To order free materials: www.LLS.org/Booklets

THANK YOU

PLEASE PROVIDE US WITH FEEDBACK, CLICK FOR SURVEY:

We have one goal: A world without blood cancers