Teclistamab-cqyv (TECVAYLI)
National Drug Monograph
May 2023

VA Pharmacy Benefits Management Services, Medical Advisory Panel, and VISN Pharmacist Executives

The purpose of VA PBM Services drug monographs is to provide a focused drug review for making formulary decisions. Updates will be made if new clinical data warrant additional formulary discussion. The Product Information or other resources should be consulted for detailed and most current drug information.

FDA Approval Information

Description/Mechanism of Action

- Teclistamab is a bispecific B-cell maturation antigen (BCMA)-directed CD3 T-cell engager
- Teclistamab binds to BCMA expressed on multiple myeloma cells, and to CD3 receptors on the surface of T-cells. This results in cell death of BCMA-expressing cells, and activation of a T-cell mediated immune response.

Indication(s) Under Review in This Document

- Relapsed or refractory multiple myeloma in patients who have received at least four prior lines of therapy including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 monoclonal antibody.

Dosage Form(s) Under Review

- Dosage forms
  - 30 mg/3 mL in a single-dose vial
  - 153 mg/1.7 mL in a single-dose vial
- Dosing and administration
  - Teclistamab is for subcutaneous administration only
  - Patients are required to be hospitalized for 48 hours after administration of each step-up dose of teclistamab due to the risk of cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS)
  - It is recommended that patients be pre-treated with the following medications 1 to 3 hours prior to each dose of the step-up schedule including step-up doses 1 and 2, as well as the first treatment dose
    - Corticosteroid, oral or intravenous (IV) dexamethasone 16 mg
    - Histamine-1 (H1) receptor antagonist, oral or IV diphenhydramine 50 mg or equivalent
    - Antipyretic, oral or intravenous acetaminophen 650-1000 mg or equivalent
  - Pre-treatment medications may be required prior to administration of subsequent doses in the following patients
    - Patients who repeat the step-up dosing schedule due to a delay in treatment
    - Patients who experience CRS following their prior dose of teclistamab

Dosing Schedule	**Day**	**Dose**	
Step-up Dosing Schedule	Day 1	Step-up dose 1	0.06 mg/kg
	Day 4*	Step-up dose 2	0.3 mg/kg
	Day 7*	First treatment dose	1.5 mg/kg
Weekly Dosing Schedule	One week after first treatment dose and weekly thereafter	Subsequent treatment doses	1.5 mg/kg once weekly

*step-up dose 2 and first treatment dose may be given between 2 to 4 days after the prior dose and may be given up to 7 days after the prior dose to allow for resolution of adverse reactions

Refer to package insert for recommendations surrounding restarting teclistamab after a dose delay.

Clinical Evidence Summary

Efficacy Considerations

- Efficacy of teclistamab for the fourth line or later treatment of relapsed or refractory multiple myeloma stems from the results of the MajesTEC-1 Phase I-II trial. Treatment with teclistamab resulted in durable responses in the studied population.
- Efficacy data are summarized in Table 1

Table 1: Efficacy results from MajesTEC-1

Design	Results
Phase I-II multi-center study **Inclusion:** Adults with relapsed or refractory multiple myeloma; previous receipt of at least three lines of therapy including a proteasome inhibitor, an anti-CD38 monoclonal antibody, and an immunomodulatory agent; ECOG PS 0-1 **Exclusion:** Prior treatment with BCMA or CD-3 directed therapy; prior antitumor therapy within three weeks of first dose of study drug; cumulative corticosteroid dose equivalent to ≥ 140 mg of prednisone within 14 days of first dose of study drug; known active CNS involvement; allogenic stem cell transplant (SCT) ≤ 6 months or autologous SCT ≤ 12 weeks prior to first dose of study drug **Treatment:** Teclistamab 1.5 mg/kg subcutaneously once weekly, preceded by step-up doses of 0.06 mg/kg and 0.3 mg/kg separated by 2-4 days and completed 2-4 days prior to the first full dose of teclistamab Treatment continued until progression of disease, intolerable toxicity, death, withdrawal of consent, or end of study period	**Primary Endpoint:** Overall response rate (ORR), defined as a partial response (PR) or better as assessed by independent review committee **Secondary Endpoints:** Duration of response (DOR); very good partial response (VGPR) or better; complete response (CR) or better; time to response; progression-free survival (PFS); overall survival (OS); minimal residual disease (MRD) status; safety; pharmacokinetics; immunogenicity **Demographics:** Median age 64 years; 58% male; high-risk cytogenetics 26%; median number of prior lines of therapy 5; previous SCT 82%; triple-class refractory 100%; penta-drug refractory 70% **Results** Median follow-up time 14.1 months Phase I: *n* = 40 Phase II: *n* = 125 **Endpoint** / **Outcome** / **95% CI** **ORR** (%) / 63 / 55.2-70.4 **VGPR** (%) / 58.8 /

CR (%)	39.4	
Median Time to First Response (months)	1.2	
Median Time to Best Response (months)	3.8	
MRD Negativity (%)	26.7	20.1-34.1
Median DOR (months)	18.4	14.9-NE
Median PFS (months)	11.3	8.8-17.1
Median OS (months)	18.3	15.1-NE

CI: confidence interval
NE: not estimable

- MajesTEC-1 evaluated teclistamab in patients with relapsed or refractory multiple myeloma following three prior lines of therapy including a proteasome inhibitor, an anti-CD38 monoclonal antibody, and an immunomodulatory agent
- The studied population was heavily pre-treated and the median number of prior lines of therapy was 5
- Treatment with teclistamab resulted in an overall response rate of 63%

Safety Considerations

Safety Results from Clinical Trials:

- The safety of teclistamab monotherapy was evaluated in the MajesTEC-1 trial
- Among the 165 patients in the combined Phase I-II study, all patients experienced an adverse event, and 94.5% of patients experienced a grade three or four adverse event
- Common adverse events (≥20%) of any grade included CRS, neutropenia, anemia, thrombocytopenia, lymphopenia, diarrhea, fatigue, nausea, injection-site erythema, pyrexia, headache, arthralgia, constipation, and cough
- Common adverse events (≥20%) of grade three or four included neutropenia, anemia, thrombocytopenia, and lymphopenia

Table 2: Safety results from MajesTEC-1

Event	Any Grade n, (%)	Grade 3 or 4 n, (%)
Any adverse event	165 (100)	156 (94.5)
CRS	119 (72.1)	1 (0.6)
Neurotoxic event	24 (14.5)	1 (0.6)
Neutropenia	117 (70.9)	106 (64.2)
Anemia	86 (52.1)	61 (37)
Thrombocytopenia	66 (40)	35 (21.2)
Lymphopenia	57 (34.5)	54 (32.7)
Leukopenia	29 (17.6)	12 (7.3)
Hypogammaglobulinemia	123 (74.5)	Unknown
Diarrhea	47 (28.5)	6 (3.6)
Fatigue	46 (27.9)	4 (2.4)
Nausea	45 (27.3)	1 (0.6)
Injection-site erythema	43 (26.1)	0 (0)
Pyrexia	45 (27.3)	1 (0.6)
Headache	39 (23.6)	1 (0.6)
Arthralgia	36 (21.8)	1 (0.6)
Constipation	34 (20.6)	0 (0)
Cough	33 (20.0)	0 (0)
Pneumonia	30 (18.2)	21 (12.7)
COVID-19	29 (17.6)	20 (12.1)
Bone pain	29 (17.6)	6 (3.6)
Back pain	27 (16.4)	4 (2.4)

- **Boxed warnings:**
  - CRS
    - Potentially life-threatening inflammatory reaction in response to the activation of T cells or other immune effector cells leading to increases in inflammatory cytokines, and activation of T cells
    - Can manifest as fever with or without multiple organ dysfunction
    - CRS occurred in 72% of those in the clinical trial: 42% with step-up dose #1; 35% with step-up dose #2 and 24% with first treatment dose
    - The median time to onset of CRS was 2 days after most recent dose (range 1 to 6)
    - The median duration of CRS was 2 days (range 1 to 9)
    - Classification and treatment recommendations are included in table 3
    - In the MajesTEC-1 trial, administration of tocilizumab was per the investigator's discretion, and protocol for the trial recommended *consideration* of tocilizumab administration for events of grade 1 CRS, and did recommend tocilizumab administration for events of grade ≥ 2 CRS[2]

- CRS following step-up dose #1 and prior to step-up dose #2 treated with tocilizumab:
    - Grade 1: 10 out of 49 patients (20%)
    - Grade 2: 19 out of 22 patients (86%)
    - Grade 3: 0 out of 1 patient (0%)

However, there was a lack of a clinically meaningful difference in teclistamab dose interruptions and time to subsequent teclistamab dose between those who received tocilizumab for CRS management vs. those who did not. For this reason, tocilizumab is not specifically included in the package insert recommendations for management of CRS related to teclistamab.[3]

Table 3: CRS grading, symptoms, and management

Grade	Symptoms	Actions
1	Temperature ≥ 100.4°F	-Withhold teclistamab until CRS resolves -Administer pretreatment medications prior to next dose
2	Temperature ≥ 100.4°F with hypotension responsive to fluids and not requiring vasopressors and/or oxygen requirement of low-flow nasal cannula or blow-by	-Withhold teclistamab until CRS resolves -Administer pretreatment medications prior to next dose -Hospitalize the patient for 48 hours following the next dose
3	Temperature ≥ 100.4°F with hypotension requiring one vasopressor with or without vasopressin and/or oxygen requirement of high-flow nasal cannula, facemask, non-rebreather mask, or Venturi mask	First occurrence of grade 3 CRS with duration < 48 hours: -Withhold teclistamab until CRS resolves -Administer pretreatment medications prior to next dose -Hospitalize the patient for 48 hours following the next dose
		Recurrent grade 3 CRS or grade 3 CRS with duration ≥ 48 hours: -Permanently discontinue teclistamab -Provide supportive care, which may include intensive care
4	Temperature ≥ 100.4°F with hypotension requiring multiple vasopressors (excluding vasopressin) and/or oxygen requirement of positive pressure	-Permanently discontinue teclistamab -Provide supportive care, which may include intensive care

- ICANS
    - Potentially life-threatening neuropsychiatric syndrome as a result of increased levels of circulating cytokines leading to disruption of the blood-brain barrier
    - Can manifest as encephalopathy, behavior changes, speech alterations, cerebral edema, seizures, hallucinations, headaches, and tremors among other neurologic symptoms

- Neurologic toxicity occurred in 57% of patients in the clinical trial. ICANS was reported in 6%: 1.2% following step-up dose #1, 0.6% after step-up dose #2 and 1.8% after the first treatment dose
- Median time to onset for any neurotoxic event, including but not limited to ICANS, was 3 days (range 1 to 13)
- Median duration of the reported neurotoxic events, including but not limited to ICANS, was 7 days (range 1 to 291)
- Classification and treatment recommendations are included in table 4 below

Table 4: ICANS grading, symptoms, and management

Grade	Symptoms	Actions
1	ICE score 7-9 or depressed level of consciousness: awakens spontaneously	-Withhold teclistamab until ICANS resolves -Monitor neurologic symptoms and consider consultation with neurologist and other specialists for further management, including consideration for starting non-sedating, anti-seizure medicines for seizure prophylaxis
2	ICE score of 3-6 or depressed level of consciousness: awakens to voice	-Withhold teclistamab until ICANS resolves -Administer dexamethasone 10mg IV every 6 hours, continue until resolution to grade 1 or less then taper -Monitor neurologic symptoms and consider consultation with neurologist and other specialists for further management, including consideration for starting non-sedating, anti-seizure medicines for seizure prophylaxis -Hospitalize the patient for 48 hours following the next dose
3	ICE score of 0-2 or depressed level of consciousness: awakens only to tactile stimulus, or seizures, or raised intracranial pressure: focal/local edema on neuroimaging	First occurrence of grade 3 ICANS: -Withhold teclistamab until ICANS resolves -Administer dexamethasone 10mg IV every 6 hours, continue until resolution to grade 1 or less then taper -Monitor neurologic symptoms and consider consultation with neurologist and other specialists for further management, including consideration for starting non-sedating, anti-seizure medicines for seizure prophylaxis -Provide supportive care, which may include intensive care -Hospitalize the patient for 48 hours following the next dose

		Recurrent grade 3 ICANS: -Permanently discontinue teclistamab -Administer dexamethasone 10mg IV every 6 hours, continue until resolution to grade 1 or less then taper -Monitor neurologic symptoms and consider consultation with neurologist and other specialists for further management, including consideration for starting non-sedating, anti-seizure medicines for seizure prophylaxis -Provide supportive care, which may include intensive care
4	ICE score of 0 or depressed level of consciousness: patient unarousable or requires vigorous or repetitive tactile stimuli to arouse or is in stupor or is in coma, or having seizure(s), or motor findings significant for deep focal motor weakness such as hemiparesis or paraparesis, or raised intracranial pressure/cerebral edema with signs/symptoms such as diffuse cerebral edema on neuroimaging, decerebrate or decorticate posturing or cranial nerve VI palsy or papilledema or Cushing's triad	- Permanently discontinue teclistamab -Administer dexamethasone 10mg IV every 6 hours, continue until resolution to grade 1 or less then taper -Alternatively, consider administration of methylprednisolone 1,000mg per day IV and continue for 2 or more days -Monitor neurologic symptoms and consider consultation with neurologist and other specialists for further management, including consideration for starting non-sedating, anti-seizure medicines for seizure prophylaxis -Provide supportive care, which may include intensive care

ICE = immune effector cell-associated encephalopathy, refer to package insert for details on the ICE assessment

- **Contraindications:** none
- **Other warnings / precautions**:
    - Hepatotoxicity: can cause hepatotoxicity, including fatalities. Monitor liver enzymes and bilirubin at baseline and during treatment. Any grade of elevated aspartate aminotransferase (AST), alanine aminotransferase (ALT), and total bilirubin occurred in 34%, 28%, and 6% of patients, respectively. Grade three or four elevations in AST, ALT, and total bilirubin were 1.2%, 1.8%, and 0.6%, respectively.
    - Infections: can cause severe, life-threatening, or fatal infections. Monitor for signs and symptoms of infection. Withhold treatment in patients with an active infection during the step-up dosing period. Serious infections occurred in 30% of patients. Grade three or four serious infections occurred in 35% of patients. Fatal infections occurred in 4.2% of patients.
    - Neutropenia: monitor blood cell counts at baseline and during treatment. Decreased neutrophils were observed in 71% of patients, with grade three or four decreased neutrophils in 64% of patients. Febrile neutropenia was observed in 3% of patients.

    - Hypersensitivity and other administration reactions: systemic and local reactions can occur. Withhold treatment or consider discontinuation based on the severity of reaction. Systemic reactions occurred in 1.2% of patients and local reactions occurred in 35% of patients. No grade three or four reactions were observed.
    - Embryo-fetal toxicity: may cause fetal harm. Recommended to advise females of reproductive potential to use effective contraception during treatment and for five months after the last dose given potential risk to the fetus.
- **Adverse reactions**
    - **Common (≥20%):** included CRS, neutropenia, anemia, thrombocytopenia, lymphopenia, diarrhea, fatigue, nausea, injection-site erythema, pyrexia, headache, arthralgia, constipation, and cough
    - **Serious Adverse events / Deaths / Discontinuation:** In MajesTEC-1, 63% of patients skipped a dose of teclistamab due to adverse events. Two patients discontinued the medication due to adverse events: grade three pneumonia, and grade four progressive multifocal leukoencephalopathy. It was reported that 41.2% of patients died, and 60% of these deaths were attributed to progressive disease. A total of 19 patients died due to an adverse event, 12 of which were related to COVID-19. It was determined that five deaths were related to treatment with teclistamab: one due to progressive multifocal leukoencephalopathy, two in those that had contracted COVID-19, one due to hepatotoxicity, and one related to pneumonia.

Other Considerations

REMS (Risk Evaluation and Mitigation Strategy)

- Tecvayli REMS
    - Only available through REMS program given the risk of CRS and neurologic toxicity
    - Prescribers must be certified with the program and complete training
    - Prescribers must counsel patients about the risks of treatment
    - Patients must be provided with a patient wallet card
    - Healthcare settings that dispense teclistamab must be certified with the program and must verify that ordering providers are in fact certified to prescribe teclistamab

- **Administration:** due to the risk of CRS and ICANS, patients must be hospitalized for 48 hours following all step-up doses of teclistamab
- **Antiviral prophylaxis:** recommended to consider antiviral prophylaxis to prevent herpes zoster reactivation prior to initiating treatment with teclistamab
- **Bone marrow support:** use of granulocyte colony stimulating factors (GCSF), erythropoietin-stimulating agents (ESAs), and transfusions was not permitted as prophylactic treatment during the dose-limiting toxicity phase of the MajesTEC trial. In subsequent phases of the trial, these agents were permitted for the treatment of signs or symptoms associated with anemia, neutropenia, and/or thrombocytopenia according to each facility's local standard of care. It was

recommended to consider GCSF for grade 4 neutropenia, or grade 3 neutropenia accompanied by an infection.

- **Special populations:**
  - May cause fetal harm. Recommended to advise females of reproductive potential to use effective contraception during treatment and for five months after the last dose given potential risk to the fetus.
  - The effects of teclistamab in a breastfed child are unknown. Recommended to advise parents not to breasted during and for five months after the last dose of teclistamab.
- **Interactions:** no clinical studies have been performed that have evaluated potential drug interactions with teclistamab. Release of cytokines induced by teclistamab may decrease the activity of cytochrome P450 (CYP) enzymes, resulting in increased exposure of CYP substrates. It is recommended to monitor for toxicity and reduce doses of CYP substrates as indicated.
- **Storage:** teclistamab vials must be refrigerated (2˚C to 8˚C [36˚F to 46˚F])
- **Stability:** once drawn up into the prepared syringe, it may be stored at 2˚C to 8˚C (36˚F to 46˚F) or at 15˚C to 30˚C (59˚F to 86˚F) for up to 20 hours

Risk-Benefit Assessment (for Oncology NMEs only)

- **Outcome in clinically significant area:** overall response rate
- **Effect Size:** N/A
- **Potential Harms:** Severe
- **Net Clinical Benefit:** n/a; due to accelerated approval process

Other Therapeutic Options

Alternative treatments for relapsed or refractory multiple myeloma in patients who have received prior treatment including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 monoclonal antibody are listed in table 5 below.

Table 5 Selected Treatment Alternatives

<table>
<tr><th>Regimen</th><th>Formulary Status</th><th>Indication</th><th>Supporting Data</th></tr>
<tr><td>Ciltacabtagene autoleucel[4]</td><td>N/A</td><td>Adult patients with 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</td><td>• n = 97, received ciltacabtagene autoleucel (cilta-cel) five to seven days after lymphodepleting treatment
• Adults with multiple myeloma with three or more previous lines of therapy, or double refractory to a proteasome inhibitor and an immunomodulatory agent, and must have received a proteasome inhibitor, immunomodulatory agent, and an anti-CD38 antibody
<table>
<tr><td></td><td>Cilta-cel</td><td>95% CI</td></tr>
<tr><td>ORR (%)</td><td>97</td><td>91-99</td></tr>
<tr><td>mDOR</td><td>NR</td><td>16-NE</td></tr>
<tr><td>OS (%)</td><td>89</td><td>80-94</td></tr>
<tr><td>1-Year PFS (%)</td><td>77</td><td>66-84</td></tr>
</table>
• Most common non-hematologic grade 3/4 ADE: neurotoxicity, fatigue, increased liver enzymes, hypophosphatemia
• Grade 3/4 hematologic ADE: 99%</td></tr>
<tr><td>Idecabtagene vicleucel[5]</td><td>N/A</td><td>Adult patients with 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</td><td>• n = 128, received idecabtagene autoleucel (ide-cel) two days after lymphodepleting treatment
• Adults with multiple myeloma with three or more previous regimens including an immunomodulatory agent, a proteasome inhibitor, and an anti-CD38 antibody
<table>
<tr><td></td><td>Ide-cel</td><td>95% CI</td></tr>
<tr><td>ORR (%)</td><td>73</td><td>66-81</td></tr>
<tr><td>mPFS (months)</td><td>8.8</td><td>6-12</td></tr>
<tr><td>mDOR (months)</td><td>10.7</td><td>9-11</td></tr>
<tr><td>mOS (months)</td><td>19.4</td><td>18-NE</td></tr>
</table>
• Most common non-hematologic grade 3/4 ADE: hypophosphatemia, hypocalcemia, hyponatremia, CRS
• Grade 3/4 hematologic ADE
○ Neutropenia: 89%
○ Anemia: 60%
○ Thrombocytopenia: 52%</td></tr>
</table>

<table>
<tr>
<td>Selinexor + dexamethasone[6]</td>
<td>NF
F</td>
<td>Adult patients with relapsed or refractory multiple myeloma who have received at least four prior therapies and whose disease is refractory to at least two proteasome inhibitors, at least two immunomodulatory agents, and an anti-CD38 monoclonal antibody</td>
<td>
• n = 79, received selinexor + dexamethasone (S + D)
• Adults with relapsed or refractory multiple myeloma with three or more previous regimens including an alkylating agent, glucocorticoids, bortezomib, carfilzomib, lenalidomide, and pomalidomide
<table>
<tr><td></td><td>S + D</td><td>95% CI</td></tr>
<tr><td>ORR (%)</td><td>21</td><td>13-31</td></tr>
<tr><td>mPFS (months)</td><td>2.3</td><td>NR</td></tr>
<tr><td>mDOR (months)</td><td>5</td><td>NR</td></tr>
<tr><td>mOS (months)</td><td>9.3</td><td>NR</td></tr>
</table>
• Most common non-hematologic grade 3/4 ADE: fatigue, nausea, diarrhea, hyponatremia
• Most common hematologic grade 3/4 ADE: thrombocytopenia, anemia, neutropenia, lymphopenia
</td>
</tr>
<tr>
<td>Bendamustine + lenalidomide + dexamethasone[7]</td>
<td>PA-F
PA-F
F</td>
<td>Off label use, studied population was patients with progressive or refractory symptomatic multiple myeloma following at least one line of therapy</td>
<td>
• n = 29, received bendamustine + lenalidomide + dexamethasone (BLD)
• Adults with symptomatic multiple myeloma that had prior treatment with at least one line of therapy after which the patient had progressive or refractory disease
• Median prior number of therapies was three
<table>
<tr><td></td><td>BLD</td><td>95% CI</td></tr>
<tr><td>ORR (%)</td><td>52</td><td>NR</td></tr>
<tr><td>mPFS (months)</td><td>6.1</td><td>4-9</td></tr>
<tr><td>1-Year OS (%)</td><td>93</td><td>59-99</td></tr>
<tr><td>mOS (months)</td><td>NR</td><td>NR</td></tr>
</table>
• Most common non hematologic grade 3/4 ADE: hypokalemia, hyperglycemia
• Most common hematologic grade 3/4 ADE: neutropenia, thrombocytopenia, anemia
</td>
</tr>
</table>

NF = non-formulary; CI = confidence interval; ORR = overall response rate; DOR = duration of response; NR = not reported; NE = not estimable; mOS = median overall survival; mPFS = median progression-free survival; ADE = adverse drug event; F = formulary; PA-F = prior authorization-formulary; N/A = not applicable

Projected Place in Therapy

- A person residing in the United States has a lifetime risk of developing multiple myeloma of less than 1%[8]
- In 2010, multiple myeloma accounted for 1.4% of all cancers within the Veterans Health Administration
- Based on International Classification of Diseases Code (ICD), 1,227 Veterans were treated for multiple myeloma between 2020 and 2021
- Exposure to Agent Orange has been associated with development of multiple myeloma[9]
- There are many options for treatment of relapsed/refractory multiple myeloma, but options dwindle for fourth line and later treatment[10]
- The MajesTEC-1 trial evaluated teclistamab in patients with relapsed or refractory multiple myeloma and previous receipt of at least three lines of therapy including a proteasome inhibitor, an anti-CD38 monoclonal antibody, and an immunomodulatory agent. Outcomes were notable for an ORR of 63%, a durable response outcome[2]
- Teclistamab has not been compared to other therapies. Indirect comparisons show the ORR for teclistamab is lower than that of CAR-T cell therapy but higher than treatment with alkylating agent-based chemotherapy.
- Due to the risk of CRS and neurologic toxicity, including ICANS, drug is available only through a restricted program called TECVAYLI REMS. Notable requirements include certification of prescribers, pharmacies and healthcare settings, education of patients and provision with the Patient Wallet Card.
- In cross-trial comparison, the rates of CRS and neurotoxic events were numerically lower in patients receiving teclistamab compared to patients receiving CAR-T therapy. However, these rates are still clinically significant, indicating that patients who are poor candidates for CAR-T therapy may also be poor candidates for treatment with teclistamab.
- Treatment should be restricted to facilities that are able to comply with admission of patients for 48 hours to receive all step-up doses and first treatment dose of teclistamab as well as staff trained on the management of toxicities specific to treatment, including CRS and ICANS
- Patients with prior anti-BCMA directed therapy were included in cohort C of the MajesTEC-1 trial. The overall response rate was 52.5% in this population based on information presented at the American Society of Clinical Oncology. Sufficient published evidence to support teclistamab use in patients previously exposed to anti-BCMA directed therapy is presently lacking.

References

1. Tecvayli [Prescribing Information]. Janssen Biotech, Inc.; 2022.
2. Moreau P, Garfall AL, van de Donk NWCJ, et al. Teclistamab in Relapsed or Refractory Multiple Myeloma. N Engl J Med. 2022 Aug 11;387(6):495-505. doi: 10.1056/NEJMoa2203478. Epub 2022 Jun 5. PMID: 35661166.
3. Food and Drug Administration. Drug Approval Package: TECVAYLI, Multi-Discipline Review. Version Date: January 2020.
4. Berdeja JG, Madduri D, Usmani SZ, et al. Ciltacabtagene autoleucel, a B-cell maturation antigen-directed chimeric antigen receptor T-cell therapy in patients with relapsed or refractory multiple myeloma (CARTITUDE-1): a phase 1b/2 open-label study [published correction appears in Lancet. 2021 Oct 2;398(10307):1216]. Lancet. 2021;398(10297):314-324. doi:10.1016/S0140-6736(21)00933-8.
5. Munshi NC, Anderson LD Jr, Shah N, et al. Idecabtagene Vicleucel in Relapsed and Refractory Multiple Myeloma. N Engl J Med. 2021;384(8):705-716. doi:10.1056/NEJMoa2024850
6. Vogl DT, Dingli D, Cornell RF, et al. Selective Inhibition of Nuclear Export With Oral Selinexor for Treatment of Relapsed or Refractory Multiple Myeloma. J Clin Oncol. 2018;36(9):859-866. doi:10.1200/JCO.2017.75.5207
7. Lentzsch S, O'Sullivan A, Kennedy RC, et al. Combination of bendamustine, lenalidomide, and dexamethasone (BLD) in patients with relapsed or refractory multiple myeloma is feasible and highly effective: results of phase 1/2 open-label, dose escalation study. Blood. 2012 May 17;119(20):4608-13.
8. American Cancer Society. Key Statistics About Multiple Myeloma. Updated 13 January 2023. https://www.cancer.org/cancer/multiple-myeloma/about/key-statistics.html
9. Institute of Medicine. 1994. Veterans and Agent Orange: Health Effects of Herbicides Used in Vietnam. Washington, DC: The National Academies Press. https://doi.org/10.17226/2141.
10. NCCN Guidelines. Multiple Myeloma. Version 3.2023. Updated 8 December 2022.

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